FUTURE WATCH
Find out how a car named Stanley used machine-learning techniques to drive itself across a desert. **PAGE 28**

SEE YOU IN COURT
RIM and NTP file their final briefs for a hearing on a BlackBerry shutdown. **PAGE 4**

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FEBRUARY 6, 2006 ▪ VOL. 40 ▪ NO. 6 ▪ $5/COPY

Users Stick With Salesforce.com Despite Interruptions in Service

But some seek amends for outages

BY MARC L. SONGINI

For the second time in just over a month, users of Salesforce.com Inc.'s hosted CRM system faced service interruptions, leading some to question whether the vendor is doing enough to make amends for the outages.

The San Francisco-based CRM and application services provider acknowledged the glitch last Monday, just weeks after a major crash in December that was caused by a database-related problem.

"The system is running normally now," said Chief Strategist Bruce Francis. "We know that what our customers want most is continued improvements in reliability and availability, and we are always working on that."

Although none of the half-dozen users interviewed said the outages were causing them to consider dumping the vendor, a couple of them suggested actions that

Salesforce.com, page 12

INSIDE
SAP takes its first step into hosted CRM apps.
Page 4

Banks Not Depositing Linux in Data Centers

BY ERIC LAI

Linux proponents wish there were more banks like KeyBank. The Cleveland-based institution is in the midst of a multiyear upgrade to Linux, and by 2008 it expects the open-source operating system to be running on about one in seven of its servers — many of them with mission-critical applications.

But Union Bank of California NA in San Francisco is the more typical example: Apart from scattered file-and-print and Web servers, it runs only a few application-monitoring tools on Linux.

"We haven't launched any true business applications on Linux yet," said Rick Curry, vice president of infrastructure engineering at Union Bank. "Most of us [in the banking industry] are still kicking the tires."

In contrast with brokerages, many of which were quick to embrace the use of Linux and other open-source technologies, U.S. banks have been downright lag-

Linux, page 12

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GM Splits IT Services Work, Pulls Together Rival Vendors

Sets short contract lengths, standards for IT processes

BY PATRICK THIBODEAU

In awarding billions of dollars worth of IT outsourcing contracts last week, General Motors Corp. did three things that may have ramifications for many other users: It officially adopted a multisourcing strategy, it set relatively short contract lengths, and it insisted that the chosen vendors adhere to a set of standards it defined for IT processes.

GM began parceling out what could amount to almost $15 billion worth of IT work over the next five years, picking six vendors that will split about half of the projected total. Electronic Data Systems Corp. will remain GM's largest outsourcing vendor, with $3.8 billion in new contracts. The other winning vendors include Hewlett-Packard Co., IBM, Capgemini, Compuware Corp.'s Covisint Inc. subsidiary and India-based offshore services firm Wipro Ltd.

But the numbers are only a small part of the story. GM has spent the past two years working to bring together the various vendors and get them to agree to follow similar operating procedures, CIO Ralph Szygenda said. In the resulting contracts, the automaker set standards for about 40 IT proc-

GM, page 43

"We have to make this look like one GM, not five or six or seven IT companies."
GM CIO **RALPH SZYGENDA**

IT Assembly Line

GM's outsourcing plan includes these vendors:

EDS will run key product development, manufacturing, purchasing and supply chain operations.

HP will support GM's global SAP system and do server management and application maintenance.

IBM will support manufacturing quality assurance systems, and GM's service and parts operations.

CAPGEMINI will manage application integration for several operations and on an enterprisewide basis.

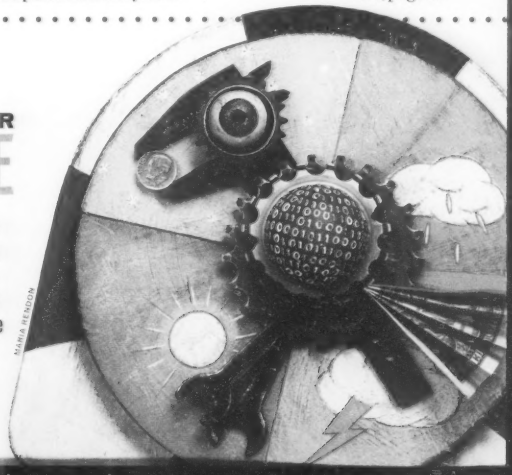
COVISINT will extend its B2B messaging and integration services to Europe, Asia and Latin America.

WIPRO will expand its development of custom middleware and IT management tools for GM.

Tool Kits FOR COMPLIANCE

Complying with regulatory mandates like the Sarbanes-Oxley Act is a never-ending process. Thomas Hoffman and Heather Havenstein identify the technologies that leading companies are choosing to ensure compliance year after year after year.

STORIES BEGIN ON PAGES 21 AND 26.



MARK HENDON

How does Xerox Global Services manage millions of office devices for its customers? Their largest application runs on new SQL Server™ 2005 64-bit running on Windows Server™ 2003, which provides 99.999% uptime*. See how at **microsoft.com/bigdata**

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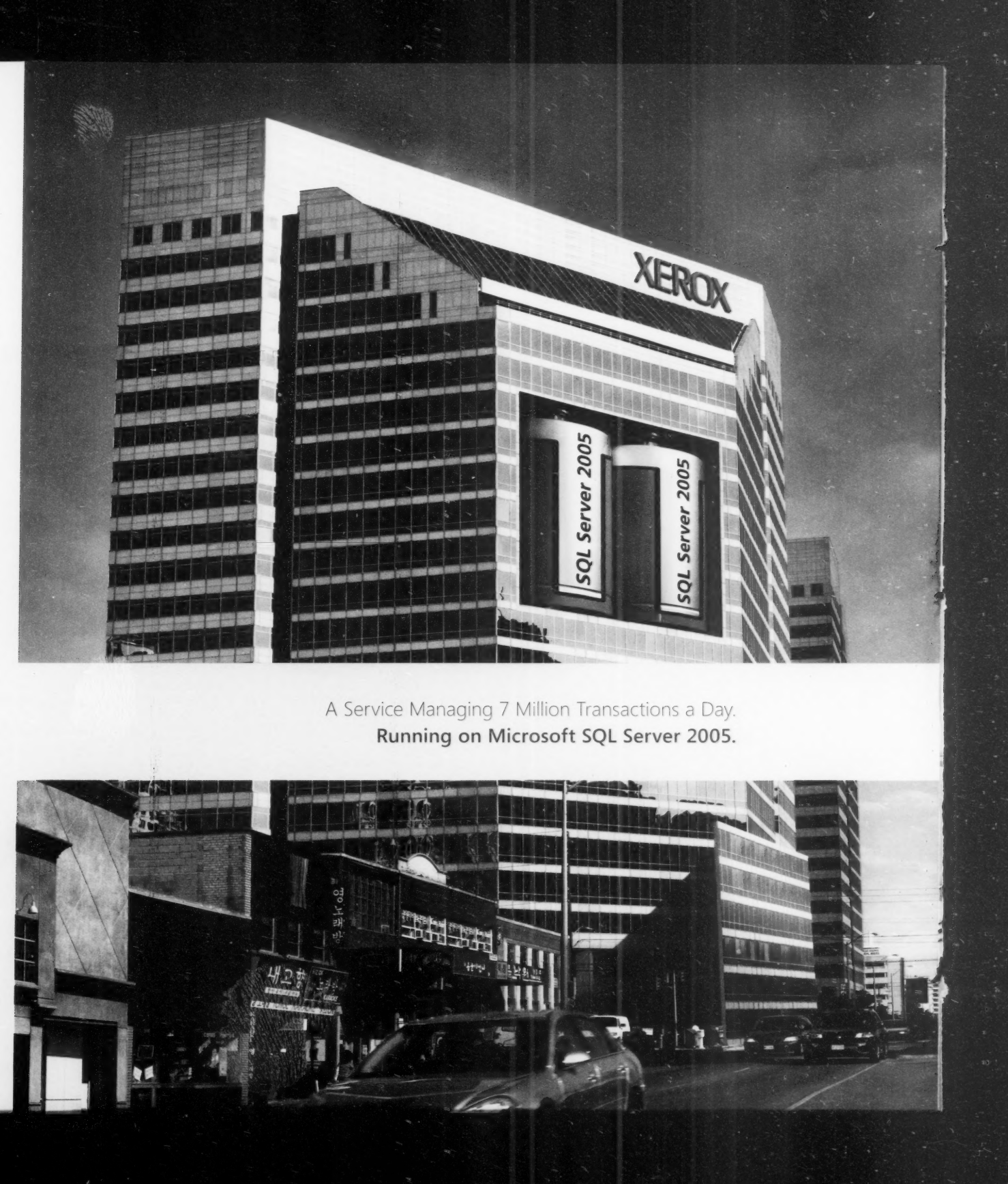

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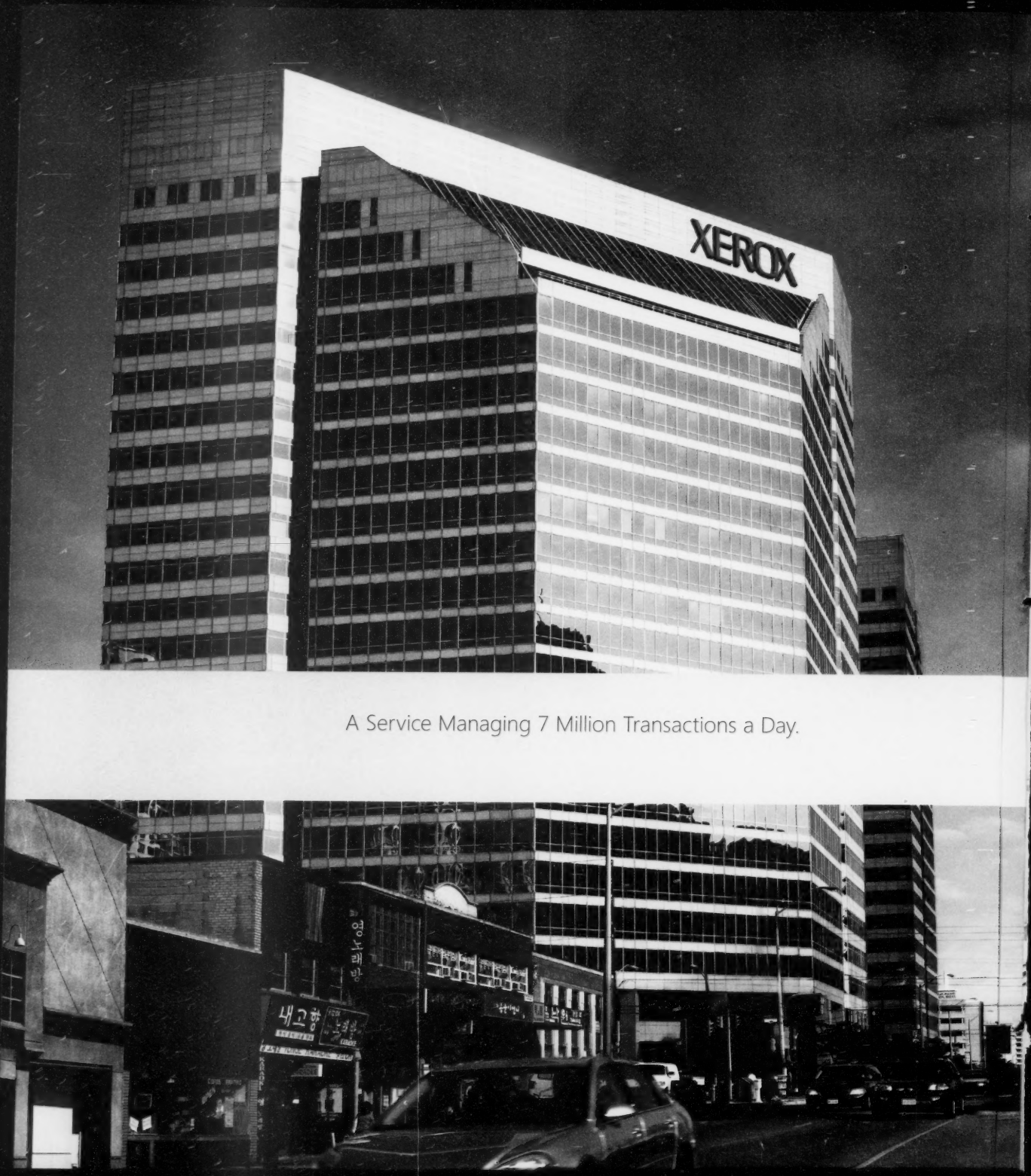

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†ZDNet Research, October 2005.

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Natural Alignment

In the Management section: At the best companies, IT and business have always been in sync, says IT Mentor Vita Cassese of Pfizer. If you follow the five basic principles she outlines, alignment could become part of your company's DNA. **Page 31**

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Are Employers Looking for You?

CAREERS: In the year ahead, an improving IT hiring market is likely to favor job seekers with the most highly developed technical and soft skills, says Robert Half Technology's Katherine Spencer Lee. QuickLink a7960

3G Wireless on Mac OS X

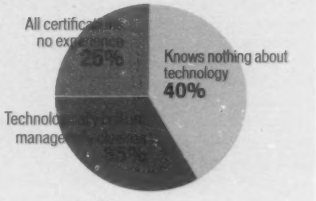
MOBILE/WIRELESS: Columnist Yuval Kossovsky connects his PowerBook to the Internet via a 3G PC card and then ventures into the unknown by trying a Bluetooth-to-cell-phone-to-GPRS route. QuickLink a7950

Cool Stuff

HARDWARE: Read *Computerworld*'s Cool Stuff blog to keep up with the latest and greatest technology trends, ranging from iPod accessories to must-have XP utilities. QuickLink a7940

QuickPoll Results

Which is the worst kind of bad boss in IT?



Take this week's QuickPoll at www.computerworld.com.

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AT DEADLINE

U.K. Objects to Microsoft C++ Spec

U.K. representatives at the International Standards Organization have objected to Microsoft Corp.'s request to fast-track a proposed specification that would let developers directly program applications for its .Net Framework using the C++ programming language. A paper filed with the ISO by the U.K. representatives said that the proposal is too dissimilar from the ISO's current C++ standard.

Mozilla Release Adds Security Updates

Mozilla Corp. has released a new version of its Firefox browser containing critical security updates and several stability fixes that address problems that can slow the performance of some systems. The eight security fixes in Version 1.5.0.1 of the browser have been cumulatively rated as "highly critical" by Copenhagen-based Secunia because some could let hackers gain control of an unpatched PC.

IBM Courts Russian Software Developers

IBM has launched an effort to convince Russian developers to use its middleware and hardware. As part of the initiative, IBM established DeveloperWorks Russia, a Russian-language version of its technical resources program. The program helps developers access tools, download source code and obtain access to information on IBM software and hardware, as well as Linux and Java.

SGI Names CEO After $28M Loss

Silicon Graphics Inc. named a new chairman, CEO and president at the same time it reported a $28 million third-quarter loss. Dennis McKenna, former CEO of privately held SCP Global Technologies Inc. in Boise, Idaho, replaces Robert Bishop, who had held the posts since 1999. Bishop will become board vice chairman.

Parties Maneuvering in BlackBerry Legal Dispute

Filings argue merits of bid to shutter service; feds issue new patent ruling

BY MATT HAMBLEN

Amid a flurry of legal filings in the BlackBerry patent-infringement case, the U.S. Patent and Trademark Office (PTO) last week issued a preliminary ruling rejecting the validity of another of the wireless e-mail patents that are at the heart of the case.

The ruling followed similar decisions on several other patents held by Arlington, Va.-based NTP Inc., which is seeking an injunction against continued operation of the BlackBerry service in the U.S. by Research In Motion Ltd.

But Todd Kort, a Gartner Inc. analyst, said it could take a year or so for the PTO to formally invalidate all of NTP's patents. Because the federal judge overseeing NTP's lawsuit against RIM has said he won't hold up the case while the patents are re-examined, Kort expects the PTO's preliminary rulings to prompt NTP to bargain harder for an upfront financial settlement that would prevent any BlackBerry service disruptions.

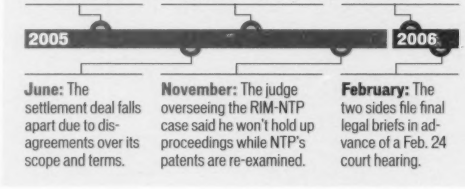
Last week, though, NTP officials vowed to contest the PTO's rejection of the company's patent claims. "We're not rolling over on this and playing dead," said NTP attorney James Wallace Jr. via e-mail. "This is going to be reversed."

With a Feb. 24 hearing looming on NTP's injunction request, the patent-holding firm and RIM filed memorandums in U.S. District Court in Richmond, Va. The U.S. Department of Justice also weighed in with a brief arguing against an injunction.

In its memorandum, NTP demanded a payment of nearly $126 million from RIM to cover lost licensing fees.

RIM asked Judge James Spencer to grant a new trial on the question of damages.

Key Developments in Patent Dispute


March: RIM said it will pay NTP up to $450 million to settle the patent infringement claims.
August: A U.S. appeals court declines to reconsider a decision upholding the original patent-infringement ruling.
January: The Supreme Court said it won't review the infringement ruling against RIM.
2005
2006
June: The settlement deal falls apart due to disagreements over its scope and terms.
November: The judge overseeing the RIM-NTP case said he won't hold up proceedings while NTP's patents are re-examined.
February: The two sides file final legal briefs in advance of a Feb. 24 court hearing.

The Waterloo, Ontario-based vendor also criticized NTP for supporting exemptions for government and emergency workers from an injunction against BlackBerry usage, saying that many doctors and hospital staffers would be left out under that scenario.

The DOJ said that a court-ordered shutdown of the BlackBerry service could hamper communications during emergencies and that it might not be technically feasible to keep government users connected to the service while cutting off others. The only workable solution, it added, might be to issue an injunction that blocked only new sales of BlackBerry devices.

Kort said RIM officials told him that by the middle of this week the company will release details about a BlackBerry software work-around it has developed in case Judge Spencer does issue an injunction.

The CIO at a large company in the construction industry that has about 500 BlackBerry users said installing a work-around would be less painful than coping with a shutdown of RIM's service. Converting to another wireless technology would pose "a terrible burden" on setup and user training, said the CIO, who asked not to be identified. ▸

SAP Launches First Piece of Hosted CRM Service

System integrated with back-office ERP application

BY MARC L. SONGINI

SAP AG last week launched the initial piece of its first hosted CRM service, an on-demand sales force automation system.

The full offering, called SAP CRM On Demand, will add hosted marketing and services applications to the sales system later this year. The hosted software runs on IBM servers with the DB2 database.

Beta site Du Pont Co. in Wilmington, Del., has already deployed the sales force automation service, called Sales On Demand, in its global operations, said Michael Michlovich, director of marketing and sales for Du Pont IT.

Without offering specifics of the implementation, Michlovich said Du Pont is using the service to complement its packaged CRM systems. He declined to name the suppliers of those systems.

Common Processes

The Sales On Demand service offers a common set of business processes for Du Pont's sales force, a significant portion of which relies on manual processes, Michlovich said. Over the long term, he said, Du Pont hopes to integrate the hosted system with its SAP ERP software and retire some CRM applications.

Peter Graf, executive vice president of SAP product marketing, described SAP CRM On Demand as a stripped-down, easy-to-use version of the existing SAP CRM suite. The service will offer out-of-the-box integration with SAP's ERP applications, he said.

Looking to avoid the service disruption problems faced by rival Salesforce.com Inc., the new service offers an "isolated" tenancy capability, Graf said. With this feature, the whole hosted service won't crash as a result of the problems of a single customer.

The service is priced at $75 per month for each user and requires a full-year payment.

Aaron Nichols, general manager of IT at Ottawa-based Canada Post Corp., an SAP ERP and CRM user, predicts that the hosted service will likely be reliable but said that he's not interested in using it. "For a company of our size, with 10,000-plus full-time users, hosted solutions are not on the radar screen," he said. "I tend to view hosted solutions as more applicable to small and medium businesses."

The hosted service appears to be aimed at SAP's installed base, which should help the vendor stanch competitors' efforts to poach its customers, said Joshua Greenbaum, an analyst at Enterprise Applications Consulting in Berkeley, Calif. ▸

Newspapers' Exposure of Data Points Out Hidden Risks

Credit card numbers were mistakenly printed, attached to bundles of papers

BY JAIKUMAR VIJAYAN

Incidents such as the data security breach disclosed last week by *The Boston Globe* and the *Worcester Telegram & Gazette* — which inadvertently attached the credit card numbers of more than 200,000 subscribers to newspaper bundles — highlight the unexpected ways in which sensitive information can leak out of companies.

The data exposure by the two newspapers hammered home yet again the need for businesses to implement comprehensive policies for securing their information assets and then apply the appropriate controls to mitigate the risk of accidental compromises, according to security analysts.

Ways to Lose Data

"Given the infinite number of ways business processes are implemented in firms, there are potentially an infinite number of ways in which data can be lost," said Arshad Noor, CEO of StrongAuth Inc., a compliance management services firm in Sunnyvale, Calif.

As a result, IT and security managers need to start thinking beyond network and system defenses, Noor said. "We have to go back to the core of our systems where the data sits and start securing it outward from there," he said.

The *Globe* and the *Telegram & Gazette*, a sister publication in Worcester, Mass., announced that discarded internal reports containing the full credit card numbers of as many as 240,000 subscribers were reused to produce more than 9,000 routing slips for bundles of the Jan. 29 *Worcester Sunday Telegram*. The bank-routing information of about 1,100 *Telegram & Gazette* subscribers who pay by check may also have been exposed when the newspaper bundles were sent to retailers and carriers.

The two newspapers are owned by The New York Times Co. and use a shared computer system. According to officials at the *Globe*, customer data was mistakenly printed out twice in recent weeks by business office workers at the *Telegram & Gazette*. The reports were then put aside so that the clean side of the paper could be used for other purposes, leading to the security gaffe.

The *Globe* managed to recover about 1,000 of the routing slips after it was alerted to the problem by a store employee, said Alfred Larkin, the newspaper's senior vice president of general administration and external affairs. Most of the other slips are believed to have been discarded, he said.

After the breach was discovered, the newspapers modified their business system so it prints only the last four digits of credit and debit card numbers. In addition, the *Telegram & Gazette* stopped its practice of reusing internal reports as routing slips, Larkin said, adding that the *Globe* hadn't done that to begin with.

The breach at the newspapers came just one week after companies in Seattle and Minneapolis disclosed separate data compromises potentially affecting hundreds of thousands of people. Both resulted from the theft of IT gear from employees' cars.

Other common snafus mentioned by analysts include failing to properly destroy storage devices, leaving confidential reports in conference rooms, subways or taxis, storing corporate documents on home PCs, and donating or auctioning systems that still contain data. In one case last April, a disk drive containing confidential data from the police department in Brandenburg, Germany, was auctioned off on eBay Inc.'s Web site for the equivalent of about $25.

It's impossible to implement controls for every eventuality. But Roberta Witty, an analyst at Gartner Inc., said companies should set up programs for classifying data (see chart) and then apply mitigation controls based on the information's sensitivity and the perceived level of risk. "Just because it's not in electronic form doesn't mean you don't put controls over it," she said.

Also vital is training employees on the safe handling of data, said Prat Moghe, CEO of security vendor Tizor Systems Inc. in Maynard, Mass. "Companies often fail to see themselves as data brokers, though in a sense they are," Moghe said. ▸

Data Classes

Public Data that poses no risk to a company if it is made generally available. Usage doesn't require approval from the owner of the information.

Internal Information whose loss, corruption or unauthorized disclosure is of internal importance only and is unlikely to result in financial or legal losses.

Confidential/private Data that if lost, corrupted or disclosed could have an adverse effect on the company, as well as its customers, trading partners and employees.

Top secret/restricted Information that could severely harm the company's reputation or financial position in the event of a security breach.

SOURCE: GARTNER INC.

GET THEM INVOLVED

IT needs to get end users to make security a priority, says Frank Hayes. **Page 44**

IBM Upgrades iSeries Servers, Operating System

Latest move in effort to boost midrange systems

BY PATRICK THIBODEAU

IBM last week upgraded the servers and operating system in its iSeries line, continuing its effort to expand the potential user base for the midrange machines.

The new operating system, i5/OS Version 5, Release 4, is the first for the iSeries since June 2004. The new System i5 servers will use IBM's Power5+ dual-core processor, which the company said delivers up to a 33% increase in performance over current iSeries models.

The updates are the latest in a series of IBM moves to burnish the luster of the former AS/400 line.

"From my perspective, I see they are doing work" to expand the user base, said Trevor McCullough, an information systems project leader at Lachine, Quebec-based footwear maker Genfoot Inc., which uses two iSeries systems. McCullough said IBM has been continually adding applications for the system.

Last February, IBM initiated a program to provide its partners with tools to update iSeries applications via Web-based front ends rather than green-screen interfaces. Since then, nearly 600 applications have been updated and 500 new iSeries applications have been written, according to IBM. More than 6,400 applications can now run on the systems, the company said.

Adding Customers

IBM said that it added 2,500 iSeries customers last year, increasing the total base to 245,000 users. Most of the new customers were small to midsize companies.

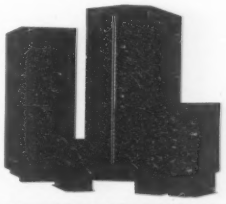
The new operating system version improves iSeries integration with IBM's xSeries line, which runs Windows and Linux, by replacing proprietary IBM interfaces with Internet SCSI technology.

The i5/OS upgrade also offers improved security and auditing capabilities, including automatic detection of denial-of-service attacks, said IBM.

Beverly Russell, IT director at E.D. Smith & Sons Ltd., a food products manufacturer in Winona, Ontario, and a beta tester of the new operating system, said she is pleased with the new storage capabilities and its ability to write to disk instead of tape. The new features can speed backup operations and open the door to the possibility of electronically sending backups to the company's disaster recovery site, she said.

Russell, who is also president of the Chicago-based iSeries user group Common, said that IBM has "definitely done a lot to energize the i5 and attract new [independent software vendors] and customers."

The four new servers range from a single-processor system to one that can support up to 64 processors. The systems are priced from $11,995 for the low-end Model 520 to the million-dollar range for the high-end Model 595, said Jim Herring, director of product management and business operations for the iSeries.



IBM's new line of iSeries systems

Jean Bozman, an analyst at Framingham, Mass.-based market research company IDC, said users are increasingly using the iSeries to manage networks of iSeries and Windows- and Linux-based xSeries machines.

"What they are doing is leveraging the system management capabilities of this thing and using it to manage multiple Windows workloads," said Bozman. ▸

BRIEFS

FCC Proposes Fining AT&T $100,000

The Federal Communications Commission has proposed fining AT&T Inc. $100,000 for failing to file an annual report detailing its compliance with customer privacy protection regulations. The FCC charged that AT&T didn't comply with the FCC's Customer Proprietary Network Information rules. In a statement, the company said it's working with the FCC to rectify the mistake.

Microsoft Updates Blogging Policies

Microsoft Corp. has formed a new policy to deal with requests from governments that allege that posted material violates their laws. Microsoft's censoring of Chinese blogger Zhao Jing late last year prompted outrage from many of the company's own employees. Under the new policy, Microsoft will remove blogs only when given proper legal notice and only in countries where the material is illegal.

Symantec Unveils Security Service

Symantec Corp. plans to offer a new consumer security service similar to Microsoft's Windows OneCare Live by September. Code-named Genesis, the new service will include antivirus and antispyware capabilities taken from the Norton Internet Security suite, system tools from the company's SystemWorks line and antiphishing technology it acquired in its September purchase of WholeSecurity.

Microsoft Moves Two Groups Into New Unit

Microsoft is merging its Exchange and real-time collaboration groups into a new unit called the Unified Communications Group. The move will align development of Microsoft's e-mail platform with that of other communications systems, like instant messaging, Web conferencing and voice over IP. Anoop Gupta will head the new group.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

MATTHEW FAULKNER

Quit Playing Hide-and-Seek . . .

. . . with corporate data. "Search technology is critical to overall business and should be part of an IT infrastructure, just like databases," says John Felahi, vice president of product management at Fast Search & Transfer ASA in Oslo. The company's Fast Enterprise Search Platform (ESP) software indexes information that's stored in multiple languages and in numerous operating environments and data formats. Felahi says Version 5, due this week, adds support for Documentum and Microsoft SharePoint files and has improved context-search capabilities. "For example," he says, "it knows 'the' in 'The Who' is part of the name." Most search engines, he claims, will drop the 'the' and botch the search. The Fast ESP upgrade also adds the ability to search through videos and Web services applications. Pricing starts at about $120,000.

Broadband services via power lines . . .

. . . could spark new IT initiatives. Although consumers will be the most obvious beneficiaries of the nascent market for broadband over power lines (BPL), "CIOs will get advantages, too," says Jim Dondero, vice president of marketing at Current Communications Group LLC in Germantown, Md. Dondero claims that branch offices and home-based workers served by BPL technology will get faster upload and download performance than cable-modem users do. Later this year, for example, Current Communications will offer a two-way, 5MB/sec. BPL service. That will make videoconferencing viable for remote users, Dondero says. He adds that BPL deployments will be attractive to utilities because of the technology's expected benefits, such as its ability to help determine the health of power lines.

DONDERO: BPL gives users more power.

Wade Malcolm, vice president of power and delivery markets at the Electric Power Research Institute Inc. in Palo Alto, Calif., agrees that BPL could be used to predict, detect and manage power outages. But, he cautions, the tools being deployed now "are in their relative infancy." In addition, the views of BPL's value among utilities "are quite diverse," he says. One adopter is TXU Electric Delivery, a subsidiary of Dallas-based TXU Corp. that is beginning a 10-year deal with Current Communications to offer BPL services to its 2 million customers. Dondero hopes that will set off light bulbs over the heads of other utility executives.

2B Number of cell phones worldwide in Dec. 2005, according to the GSM Association.

Restrict your servers to running . . .

. . . approved apps only. Next week, SecureWave SA in Luxembourg will release its Sanctuary Application Control Server software, which limits the applications that can execute on your Windows servers to a white list of approved programs. "It assures that no malware can penetrate from hell," says Dennis Szerszen, vice president of marketing and corporate development at SecureWave. Sanctuary doesn't eliminate viruses or worms that may get on your servers, he points out — it just won't let them create havoc. But you can authorize update services from Microsoft Corp., Oracle Corp. and other software vendors to run on your servers, and you can delegate control to local systems administrators, who can override the policies you set. Pricing starts at $1,800.

SZERSZEN: Take control of your servers.

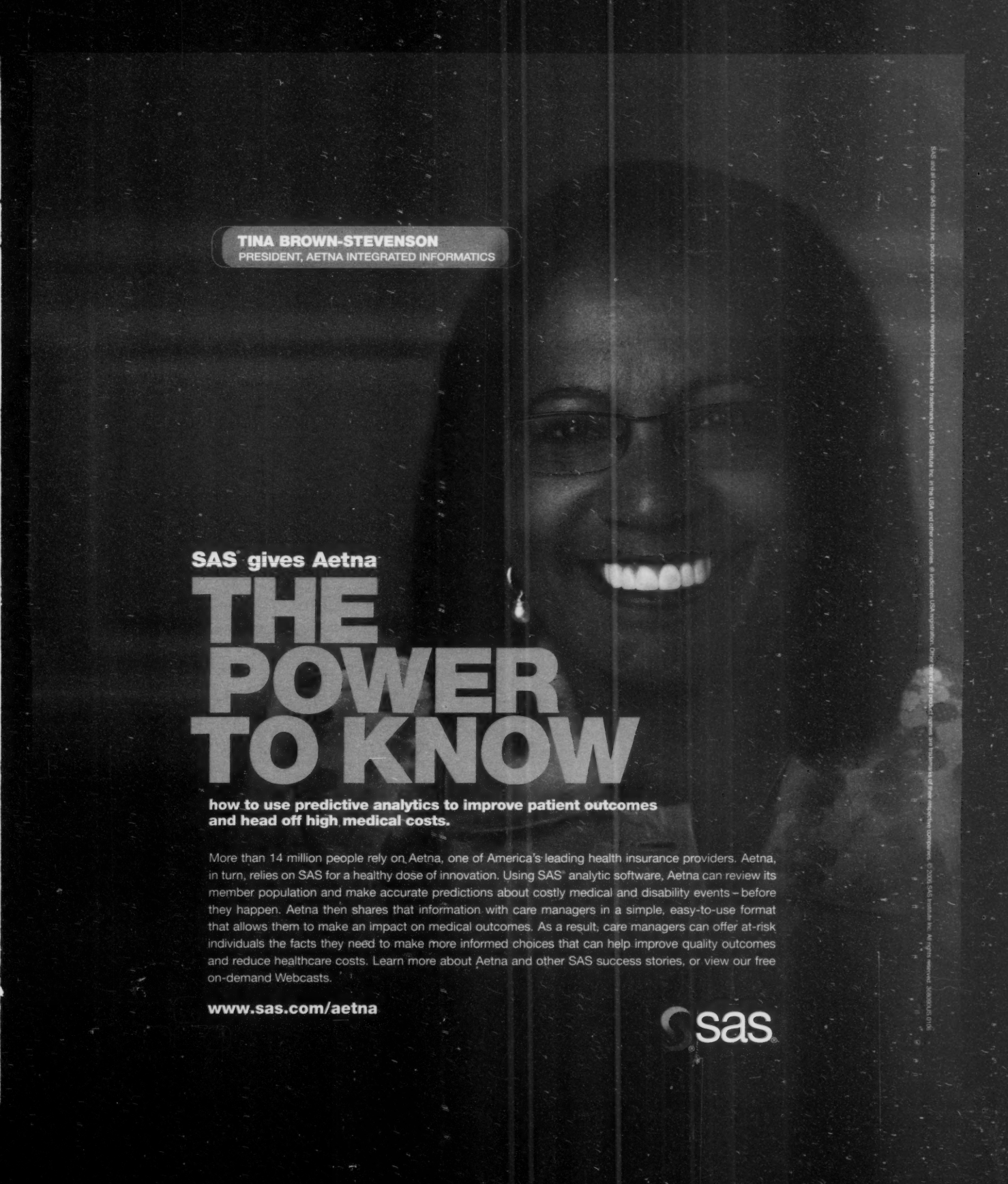
The cell phone's ubiquity makes . . .

. . . it ideal for two-factor authentication. That's the thinking behind Diversinet Corp.'s plan to update its MobiSecure service by month's end. Wally Kowal, vice president of marketing at the Toronto-based security vendor, says large organizations — such as banks that want to improve security for online customers, or global enterprises that need to tighten access to applications — have found that handing out discrete hardware tokens to end users is problematic. Smart cards, USB fobs and the like "just don't work for consumers or many workers," Kowal claims, noting that those items are easily misplaced and sometimes cumbersome to use. But almost everyone has a cell phone and is comfortable using it. Kowal says software running on cell phones and in Diversinet's data center are synchronized so the MobiSecure service always knows the correct one-time password needed for two-factor authentication. MobiSecure can handle applications with millions of users, at pricing as low as $1 per end user annually, Kowal says.

Use your IP networks to back up . . .

. . . Macintoshes, Solaris 10 systems and Oracle 10g databases. Toronto-based Asigra Inc. is supporting those technologies in Version 6 of its Televaulting software, which already works with Windows, Linux and other systems. Eran Farajun, Asigra's executive vice president, says the agentless software uses a single instance of a program running on a remote LAN to back up devices to a central disk-based storage system over the Internet or IP-based WANs. Available today, the software starts at $11,250 and allows up to 1 petabyte of disk-to-disk backup with a single license.

FARAJUN: No need for agent code to do backups.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Vendors Spread the AJAX Gospel

Big-name companies contribute code for open-source development tools

BY HEATHER HAVENSTEIN

USERS WHO helped spur the growth of Asynchronous JavaScript and XML (AJAX) programming techniques through grass-roots efforts welcomed last week's news that several top vendors have joined forces to promote it to the open-source community.

As part of the Open AJAX initiative, IBM, BEA Systems Inc., Borland Software Corp., Novell Inc., Oracle Corp., Red Hat Inc. and other vendors will contribute code for open-source AJAX tools and promote their use for building so-called rich Internet applications.

Many developers follow the AJAX programming method, which uses JavaScript within the client, to build applications that don't need to refresh a Web page every time a user enters or receives new data.

Helping Developers

T.N. Subramaniam, director of technology at RouteOne LLC in Farmington Hills, Mich., said standard, reusable open-source AJAX tools and support for the programming technique from major vendors would benefit his company's software development efforts.

RouteOne, a joint venture of the finance arms of Daimler-Chrysler AG, Ford Motor Co., General Motors Corp. and Toyota Motor Corp., manages Web-based processing of credit applications.

The company's developers use AJAX to build Web-based applications whose calculations and business rules depend heavily on what the user enters on the screen, said Subramaniam.

Such applications require a technique like AJAX, and work on them can be eased further with AJAX tools, he said. "I'm sure an AJAX counterpart to a popular [open-source development] framework like Struts will increase adoption in the long run," he said.

Likewise, Scott Spencer, vice president of engineering at First American Real Estate Solutions LP, said he expects open-source AJAX tools to make it easier for developers at the Anaheim, Calif.-based company to build applications using the programming technique.

First American, which collects and provides access to real estate property records, plans to use AJAX this year to update a mapping service that it uses with its real estate applications.

"This will result in a cleaner and easier-to-navigate user interface for our customers," Spencer said.

Tony Baer, an analyst at New York-based OnStrategies, said the creation of the Open AJAX coalition signals that grass-roots growth of AJAX among developers has gained enough momentum to force vendors to take notice.

"[AJAX] has taken on a life of its own," he said. "It was a train leaving the station with or without [vendors]."

Microsoft Weighs In

Microsoft Corp. upped the AJAX ante last year when it said it would support the technique as an alternative to Windows Presentation Foundation, its Vista rich client, Baer said.

"There was a genuine fear that Microsoft could eventually just co-opt this technology and add its own extensions, which would ruin one the beauties of AJAX — it runs on every browser," Baer added.

IBM plans to propose to the Open AJAX group that its AJAX Toolkit Framework be contributed to The Eclipse Foundation and to Mozilla Corp., which oversees development of the open-source Firefox Web browser, said Rod Smith, vice president of emerging technologies at IBM.

IBM's framework supports multiple AJAX runtime tools and can be used to develop and debug applications.

In addition, San Mateo, Calif.-based Zimbra Inc., another member of the collaborative, said it will make its AJAX runtime tool kit available to the community under Apache and Mozilla public licenses.

The remaining members of the Open AJAX group include the Dojo Foundation, Google Inc., the Eclipse Foundation, Laszlo Systems Inc., Mozilla, Openwave Systems Inc., Yahoo Inc. and Zend Technologies Ltd. ▸

COMPETING OFFERINGS

Adobe and Tibco offer alternatives to the open-source Open AJAX tools:

www.computerworld.com/thisweek

Correction

The title of Brian Murphy at Whirlpool Corp. was incorrectly listed in a story in last week's News section ("App Vendors Meet User Demand With BI Tools"). He is director of global information systems development.

Struggling Brocade Plans Extreme Makeover

BY LUCAS MEARIAN

Brocade Communications Systems Inc. plans to boost its prospects by remaking itself from a struggling supplier of hardware to one that offers an expanded mix of switches, software and services.

Declining revenue and the resignations of its CEO and chief financial officer over the past year have stressed the company and prompted the creation of the new plan.

Users interviewed last week agreed that San Jose-based Brocade has to find ways to grow its business but said they likely won't turn to the company for software or services.

Scott Saunders, director of MIS at Paxson Communications Corp. in West Palm Beach, Fla., a Brocade customer for six years, said he's not interested in buying such products from a switch maker.

"That's not usually the channel you go to for that kind of stuff," he said. "That is the trend, though, because software and services is where the bucks are, and hardware is such a commodity, even though their switches are still kind of pricey."

Rick Curry, vice president of infrastructure engineering at Union Bank of California NA in San Francisco, said that he isn't likely to purchase storage management software from Brocade. "I'd rather align with a storage management solution that is more vendor-neutral," he said in an e-mail.

Curry expects Brocade to be purchased by a larger vendor. "I would predict that Brocade is acquired by a major player in the future, which will make them stronger and position them to be more competitive with Cisco," he said.

Brocade executives wouldn't spell out what type of management software and services they expect to bring out over the next year, but the company's latest strategy follows in the footsteps of top storage vendors such as EMC Corp. and Network Appliance Inc.

Late last month, Brocade Chief Technology Officer Dan Crain said the company wants to increase software and services revenue from 1% of its total revenue to 10% over the next couple of years.

Without offering specifics, Crain said Brocade plans to add storage management software created through a mix of internal development and partnerships.

The bulk of the management software will support Brocade's Tapestry intelligent switch platform, he said.

Brocade's realignment plans come after a year of declining revenue, the resignations of CEO Greg Reyes and CFO Tony Canova, the restatement of financial reports and word of an investigation by the U.S. Securities and Exchange Commission into accounting practices involving stock options.

Greg Schulz, an analyst at research firm StorageIO in Stillwater, Minn., said Brocade's move to expand its offerings is not surprising, given its problems and the state of the industry.

"I'm not surprised in the least that Brocade is looking to shift their business," he said. "They cannot survive in the current and future market being 99% hardware."

But Brocade's survival prospects are good, Schulz added, although "there are storm clouds."

"They have the name, the installed base, [the resellers] and hopefully enough cash to get things cleaned up and headed in the right direction," he said. ▸

TIMELINE: Brocade's Woes

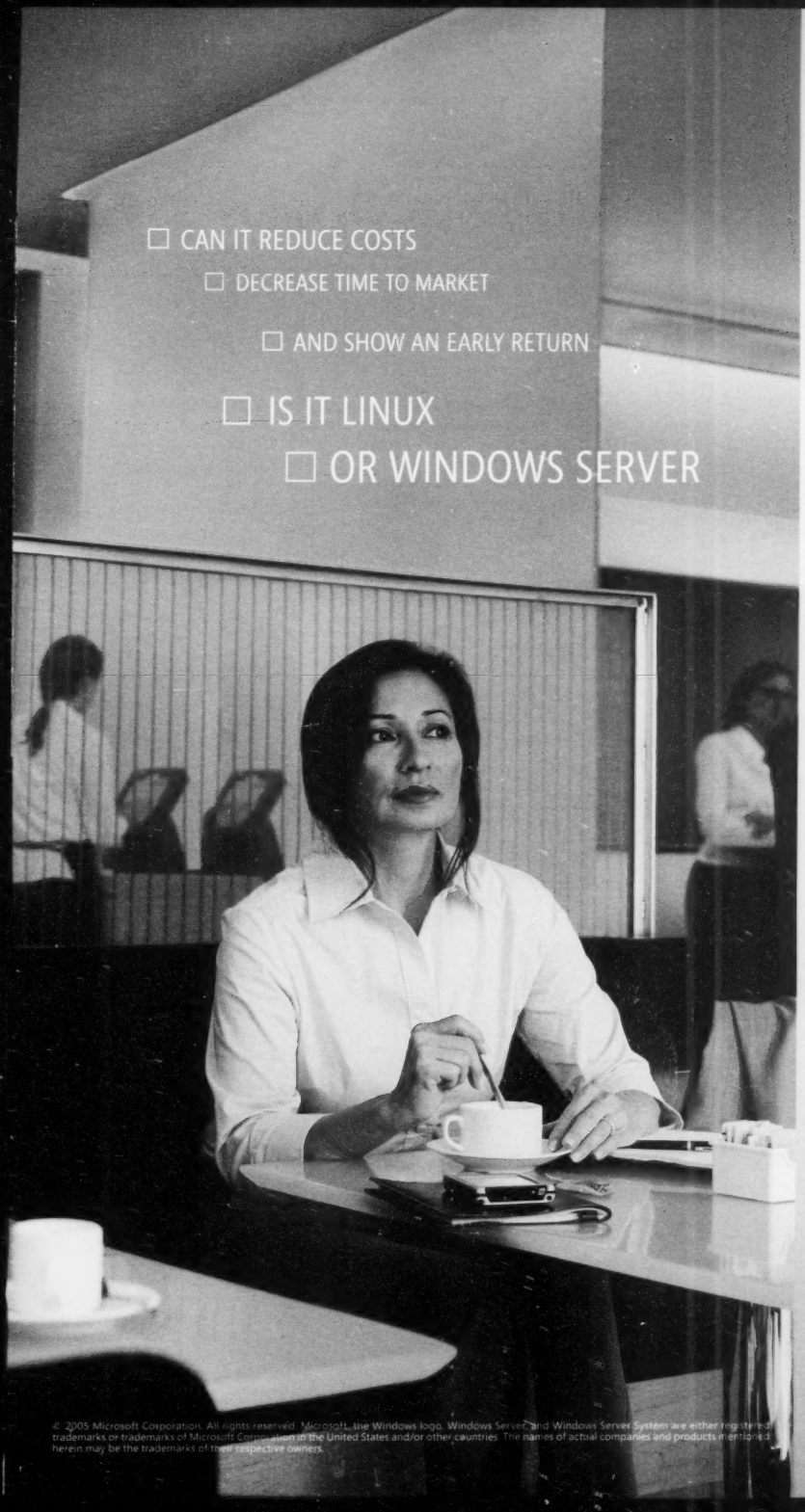
JAN. 6, 2005: Brocade announces it will restate earnings for 2002 and 2003.

JAN. 24, 2005: Brocade CEO Greg Reyes resigns.

MAY 16, 2005: Brocade expands the restatement period to include 2001 and 2004.

JUNE 9, 2005: Securities and Exchange Commission begins a formal inquiry into Brocade's past accounting practices.

DEC. 15, 2005: CFO Tony Canova resigns.



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For these and other third-party findings, go to microsoft.com/getthefacts

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BRIEFS

First Bugs in IE Beta Found in Minutes

An independent researcher needed just 15 minutes to find the first bug in the Beta 2 preview release of Microsoft Corp.'s Internet Explorer 7 browser. Californian Tom Ferris published his findings just hours after Microsoft released the beta code. Right now, the bug can be exploited only to crash the browser, but Ferris says it's likely that it could eventually be modified to run unauthorized code.

Massachusetts Names New CIO

Louis Gutierrez has been selected to head the Massachusetts Information Technology Division and oversee the implementation of its controversial OpenDocument format plan, which is slated to take effect in January 2007. Gutierrez, previously chief technology strategist at the University of Massachusetts Medical School, will assume the post today, replacing Peter Quinn, who resigned last month.

Symantec Hires Oracle Exec as CIO

Symantec Corp. has named David Thompson, formerly senior vice president and CIO at Oracle Corp., its new CIO, effective today. Thompson replaces Mark Egan, who will stay with Symantec for about six months to finish work on IT projects related to last year's purchase of Veritas Software. Thompson joined Oracle as part of its PeopleSoft acquisition.

Capellas Joins Cisco Board of Directors

Michael Capellas, former president and CEO of MCI Inc., has joined the board of directors at Cisco Systems Inc. Cisco did not say what role he will play on the board. Capellas left MCI last month after a multibillion-dollar acquisition of the company by Verizon Communications Inc. He has also served as president of Hewlett-Packard Co. and chairman and CEO of Compaq.

Office Users May Need To Add Software Fixes

Microsoft issues notices about patent ruling, says most customers unaffected

BY ERIC LAI

MICROSOFT CORP. last week said that only "a small percentage" of Office users will be required to install a service pack update or a software patch as a result of a patent infringement judgment against the company last June.

But, analysts warned, the users most likely to be directly affected are large companies that plan to install or currently are deploying either Office XP or Office 2003 bundled with the Microsoft Access database.

A U.S. District Court jury in California found last year that code primarily used in Access 2002 and 2003 infringed upon a patent held by a Guatemalan inventor. Although Microsoft is appealing the ruling, the company last week said that it began sending e-mail notices about the upgrade requirements to corporate users of Office on Jan. 20.

Microsoft said customers deploying Office 2003 with Access must install the Service Pack 2 update that it released for the application suite last September. New users of Office XP and Access are required to install a patch.

For many large companies, service pack and patch installations can be a major headache because of the extensive testing that's needed before the software can be rolled out, as well as the often lengthy deployment process itself.

Corporate users "don't want to break what's not broken," said Kevin McGrew, CEO of TechTrack Solutions Inc., an asset management consultancy in Vancouver, British Columbia. McGrew estimated that for every 1,000 PC users, an IT staff must spend a week testing new patches or service packs and then deploy them.

With its most directly affected customers, Microsoft is taking a carrot-and-stick approach on the upgrade issue. The company is promising to indemnify customers from third-party claims if they upgrade quickly. But Microsoft also noted that its contracts require users to "immediately" upgrade to new noninfringing software that it releases.

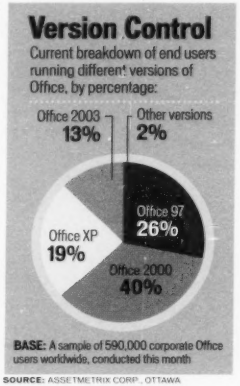
Existing users who have mixed Office XP or Office 2003 with Access can't ignore the upgrade issue completely. Microsoft is recommending, but not requiring, that such users upgrade their systems.

That's not enough to prompt Marc West, CIO at Kansas City, Mo.-based H&R Block Inc., to rush to upgrade the tax-return preparation firm's PCs. West oversees about 120,000 Windows systems in 14,000 offices nationwide, and he said that most already run Office 2003 or Office XP.

Although convincing customers to install the noninfringing code "is of value to Microsoft, it's not of direct value to us," West said. "We will most likely continue on our normal path unless security issues arise."

"Companies have no financial incentive [to upgrade] unless they are going to be financially dinged," McGrew said. "Most will just do it at their own pace."

Microsoft noted that for small businesses, installing a service pack or patch is relatively painless. It's also less trouble for corporate users if it can be combined with an Office upgrade. But analysts said the required additions could dissuade some users on older versions from upgrading now, especially with a new Office 12 release due later this year. ▸


Version Control
Current breakdown of end users running different versions of Office, by percentage:
Office 2003 13%
Other versions 2%
Office 97 26%
Office XP 19%
Office 2000 40%
BASE: A sample of 590,000 corporate Office users worldwide, conducted this month
SOURCE: ASSETMETRIX CORP., OTTAWA

Sprint Nextel Downsizes IBM Outsourcing Deal

Some application developers will return; call center contract also being revamped

BY MATT HAMBLEN

Sprint Nextel Corp. last week said it is taking back some of the application development and support work that it outsourced to IBM in 2004 as part of what was then described as a $400 million contract over five years.

The two companies are also in the "final stages" of renegotiating a separate deal under which Sprint outsourced management of its customer-service call centers to IBM, according to a spokeswoman for the telecommunications vendor. That agreement, also covering five years, was said to be a multibillion-dollar deal when it was announced several months before the software services contract was disclosed.

Last year's merger of Sprint Corp. and Nextel Communications Inc. led to the amendment of the application outsourcing contract, the Sprint spokeswoman said in a statement sent via e-mail.

Richard LeFave, CIO of the combined business, came from Nextel. Former Sprint CIO Michael Stout, who oversaw the contract negotiations with IBM, has left the company.

LeFave wasn't available for comment last week, the spokeswoman said. She disclosed few details about the changes being made to the software deal but said a "select number of IBM employees working on application development will be offered employment at Sprint."

When the initial agreement was signed, the companies said that about 1,000 Sprint IT workers would transfer to IBM and that the deal was designed to speed up Sprint's delivery of applications and help it cut annual operating costs by $1 billion in 2004 and 2005.

According to Sprint, IBM will still provide application development and maintenance support services under the amended agreement. Sprint itself "will retain full application ownership," including life-cycle management, architecture, system analysis and design responsibilities, the spokeswoman said.

Meanwhile, an IBM spokesman said the vendor plans to issue a statement on its outsourcing relationship with Sprint Nextel in the near future. He declined further comment last week.

Eugene Zakharov, an analyst at Technology Business Research Inc. in Hampton, N.H., said it isn't a big surprise that Sprint Nextel's management team would seek to alter IT agreements signed prior to the merger. "There's no doubt the rescoping is very complex," he said. "Having said that, it's likely that the transition is not going to be too bumpy." ▸

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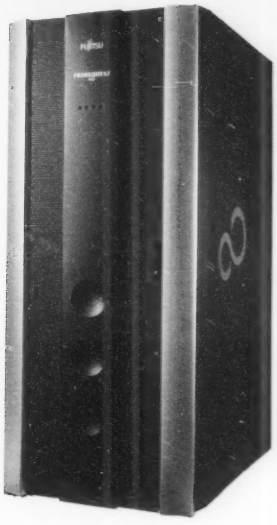

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Continued from page 1

Linux

gards. From branch-office systems to core financial databases, Linux has yet to prove — to many bank IT executives, anyway — that in clustered configurations it can scale to match the performance of incumbent mainframes.

Even some Linux vendors concede that the retail banking market has been a disappointment for them thus far.

"There are not hundreds of banks using Linux, but we are seeing a larger chunk starting to ask the question," said Kim Lorusso, financial services marketing manager at Novell Inc., owner of the SUSE Linux operating system.

Staying Put

Mark Greene, vice president of financial services strategy at IBM, a major backer of Linux, said the company is experiencing "explosive growth" in sales of servers running the operating system for branch offices. On the other hand, "the back office is still lagging," Greene said. "Banks generally aren't doing a lot around their core mainframe-based systems. It's just a difficult environment to move to anything new."

Curry said Union Bank does plan to port its internal credit-reporting and document management applications, both currently running on IBM Unix servers, over to Linux this year. But the bank expects to keep its primary transactional database on an IBM zSeries 890 mainframe for at least five more years, he added.

One roadblock for Linux is that despite its attractive projected cost of ownership, ripping out and replacing systems that are still working fine isn't an option for many banks, which tend to pinch pennies on IT compared with their cousins on Wall Street.

"The economics of banks are hard," said Alenka Grealish, an analyst at Celent Communications LLC, a Boston-based consulting firm that focuses on financial services IT issues. "IT projects tend to hit a glass ceiling in terms of size and also extend out in their cycle time."

The heavy merger-and-acquisition activity among banks in recent years has also slowed adoption of Linux, Grealish said. Instead of using mergers as an opportunity to switch IT systems, banks are generally preoccupied with ensuring that integration work goes smoothly, she said.

Moreover, banks are naturally risk-averse because of the importance of maintaining consumer trust, according to Grealish. "Until it's tried and really true, banks are not going to go there," she said.

KeyBank is an exception. Dave Seager, vice president of Unix systems engineering at the KeyCorp unit, said KeyBank bought 100 Intel-based servers running Red Hat Enterprise Linux from Hewlett-Packard Co. last year. The servers are being used to replace Unix systems that are hosting, among other things, Oracle databases and IBM's WebSphere application server software.

> **We haven't launched any true business applications on Linux yet. Most of us [in the banking industry] are still kicking the tires.**
>
> **RICK CURRY,** VICE PRESIDENT OF INFRASTRUCTURE ENGINEERING, UNION BANK OF CALIFORNIA

"In the last year, Linux has gone from 'unapproved for use in the building' to our platform of choice," said Seager, who spoke about KeyBank's Linux plans at Red Hat Inc.'s user conference last spring.

The Linux deployment has helped KeyBank keep its own balance sheet healthy. It spent $1 million on Linux servers last year, saving about 80% compared with what it had been spending on other systems, Seager said.

The savings have won over KeyBank executives who initially were hesitant about the move, Seager added. "Telling them Linux was cool or the new thing didn't translate very well," he said. "Saying it saved *x* percent of our budget translated very well."

Nonetheless, Seager said that KeyBank's core mainframe is under no immediate threat of being evicted by a Linux cluster.

The lack of plentiful banking applications for Linux also hurts the operating system's prospects, especially since banks tend to buy off-the-shelf software rather than building it themselves, said Brent Biernat, assistant vice president of networking services at COCC, an Avon, Conn.-based provider of IT services to community banks and credit unions.

The application shortage was cited by one bank IT executive as a reason why she remains "very cautious" about Linux despite the technology's potential for cost savings. Sufficient availability of third-party applications and "robust operational monitoring support remains to be seen," said the executive, who asked not to be identified. ▸

Continued from page 1

Salesforce.com

Salesforce.com could take to mitigate problems caused by downtime.

"When Salesforce.com goes down, everyone in the company is affected," said Tom Kramer, president of Bella Pictures. The San Francisco-based wedding photography company has used Salesforce.com for two years, and Kramer said the service has been "instrumental" to the company's growth.

He said that Bella employees can continue to work during outages that last less than an hour, even if productivity suffers a bit. On the other hand, Kramer said, outages lasting two hours or more can be "much more dramatic."

He called on Salesforce.com to notify users of outages that could last more than 45 minutes so they can plan "alternative strategies."

Making Amends

Kramer acknowledged that financial penalties for outages would limit Salesforce.com's incentive to sign up major clients, but he suggested that the company offer less-costly responses, such as free training, integration assistance or extra tickets to the Dreamforce user conference.

"At the very least, they could have acknowledged it, apologized and credited us a day's worth of downtime for every day that had outages," said Geoff Graham, president of GuildQuality Inc., an Atlanta-based producer of customer surveys for home builders and a former Salesforce.com customer.

GuildQuality switched from Salesforce.com to a rival hosted system from NetSuite Inc. last February for its targeted accounting and sales capabilities, not because of Salesforce.com outages.

However, Graham noted that his company suffered through Salesforce.com outages that lasted from 30 minutes to two hours. And if GuildQuality had experienced the outage that occurred last month, "our sales force would have mutinied," he said.

Graham said that despite the performance problems, hosted CRM is a viable technology. "The crashes aren't the product of a fundamentally flawed business model or product design — they're a result of too much focus on acquiring new users and not enough focus on servicing the users they have," he said.

Other customers also downplayed the outages, noting that to date they have had a negligible effect on their companies.

However, some said any deeper problems, such as the loss of key data, would prompt a closer look at alternatives.

"What would shake my faith is if something happened to the data," said Frank Tait, vice president of sales at Decision-One Corp., a Devon, Pa.-based provider of IT services and a Salesforce.com user. "The integrity of the data is my concern."

"If you live by the sword, you die by it," said Joshua Greenbaum, an analyst at Enterprise Applications Consulting in Berkeley, Calif.

Many users see constant availability of data as a key benefit of hosted systems versus software that runs on-site, Greenbaum said. If that perception of the hosted concept is broken, then an important reason for using such systems is lost. The promise of hosted systems is that they are "not supposed to entail outages and downtime," he said. ▸

They Said It

> **The crashes aren't the product of a fundamentally flawed business model or product design – they're a result of too much focus on acquiring new users and not enough focus on servicing the users they have.**
>
> **GEOFF GRAHAM,** PRESIDENT, GUILDQUALITY INC., A FORMER SALESFORCE.COM CUSTOMER

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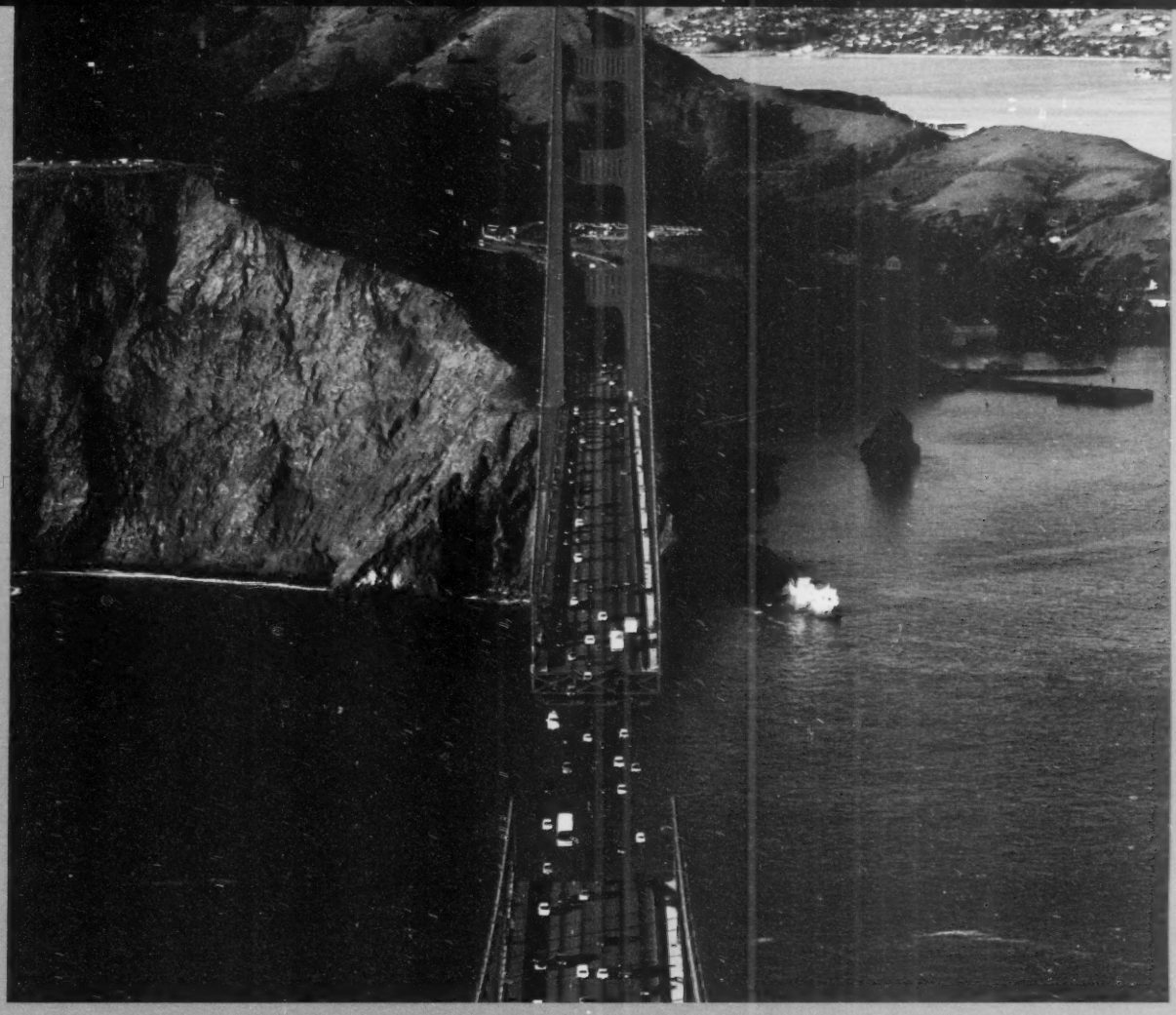
>
> **BRUCE FRANCIS,** CHIEF STRATEGIST, SALESFORCE.COM



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*Potential savings based on IDC White Paper, Ensuring Information Availability: Aligning Customer Needs with an Optimal Investment Strategy.

GLOBAL DISPATCHES An International IT News Digest

EC Leader Says IT Initiative Isn't Working

LISBON

EUROPEAN COMMISSION President Jose Manuel Durao Barroso last week said that the 10-year-old Lisbon Agenda plan to boost the competitiveness of European countries through increased IT innovation has so far failed to meet its goals.

Barroso said Europe still lags behind the U.S. in technical innovation, despite the detailed plan the EC laid out a decade ago and then relaunched last year.

"The original Lisbon strategy had no lack of analysis, no shortage of targets," Barroso said during the Government Leaders Forum held here by Microsoft Corp. "But let's be frank — it did not work."

In addition to the ongoing gap between Europe and the U.S., emerging technology companies in Asia are changing the nature of competition, Barroso said.

"European innovation is just not dynamic enough," he said, adding that members of the European Union need to better target investments while developing a more skilled workforce.

■ JEREMY KIRK, IDG NEWS SERVICE

GLOBAL FACT

20%

Year-to-year growth of the telecommunications market in Argentina during 2005, on total sales of 15.6 billion Argentine pesos ($5.1 billion U.S.).

SOURCE: TELEGEOGRAPHY RESEARCH, WASHINGTON

Senegal Tries to Cut IT Costs via Open-Source

DAKAR, SENEGAL

SENEGAL'S NATIONAL IT agency is turning to open-source software in an effort to lower the costs that the country's government has been paying for commercial products.

"We are an underdeveloped country without enough funding for expensive software," said Tidiane Seck, director of the Agence de l'Informatique de l'Etat (ADIE), which is charged with developing an IT infrastructure for Senegal's government ministries.

Since the open-source effort began just over a year ago, the IT agency has started using MySQL AB's database and has installed Linux on all of its 100 or so servers for file, e-mail and directory services, Seck said last week. He added that the ADIE is in the process of rolling out an open-source ERP package from French software start-up Nexedi, which was selected over applications from Microsoft.

The government also hopes to eventually put open-source software on its 8,000 desktop and laptop PCs.

■ JAMES NICCOLAI, IDG NEWS SERVICE

Japanese Memory Maker Pays $84M Fine

WASHINGTON

TOKYO-BASED Elpida Memory Inc. has agreed to plead guilty and pay an $84 million fine for participating in an "international conspiracy" to fix dynamic RAM prices, the U.S. Department of Justice announced last week.

Elpida is the fourth company to cop a plea as part of the DOJ's investigation of DRAM price fixing between April 1999 and June 2002. The chip makers — Elpida, Samsung Semiconductor Inc., Hynix Semiconductor Inc. and Infineon Technologies AG — have been fined a total of about $730 million since late 2004.

The DOJ filed a two-count felony charge last week in U.S. District Court in San Francisco accusing Elpida of conspiring with the other vendors. The plea deal still must be approved by the court. ▸

■ GRANT GROSS, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

Cable & Wireless PLC last week announced plans to split its U.K. and international businesses into separate units. The London-based network services firm's reorganization plan also includes the elimination of the CEO post held by Francesco Caio, effective April 1. The two new units will each have a managing director who reports directly to C&W Chairman Richard Lapthorne.

■ NANCY GOHRING, IDG NEWS SERVICE

Accenture Ltd. plans to more than double its workforce in India, China and the Philippines to about 50,000 employees over the next three years. The Hamilton, Bermuda-based IT services firm didn't say how the new hires will be distributed across the three countries.

■ JOHN RIBEIRO, IDG NEWS SERVICE

The Bavarian Ministry of Justice in Germany has extended its IT outsourcing contract with Unisys Corp.'s German unit through the end of 2008. The value of the contract wasn't disclosed beyond a description of it as a multimillion-dollar deal. The initial pact was signed in December 2002 and called for Unisys to modernize and manage the ministry's IT infrastructure.

Medical Groups Offered Rewards for IT Use

BY HEATHER HAVENSTEIN

Cisco Systems Inc., Intel Corp. and Oracle Corp. last week said they plan to offer financial rewards to medical groups in Northern California that use IT to share data and improve patient care.

Rewards of up to $150,000 per year will be available to members of a consortium of health care firms formed by the vendors and unveiled last week. The group, called the Silicon Valley Pay for Performance Consortium, includes the three founding IT vendors plus Camino Medical Group Inc., Kaiser Permanente, Palo Alto Medical Clinic, Sutter Medical Group Inc. and other large medical practices in Northern California.

All of the health care providers have agreed to encourage their physicians to use electronic medical record (EMR) technology and other IT clinical systems.

The pay-for-performance program rewards health care firms that use systematic processes and health information technology to improve the quality of care. To qualify for the rewards, the IT systems must meet standards unveiled last week by the Washington-based National Committee for Quality Assurance, a nonprofit group that accredits health care organizations.

Robert Pearl, executive director and CEO of The Permanente Medical Group Inc. in Oakland, said his medical group — the largest in the U.S., with 6,000 physicians — quickly agreed to participate in what he called the first pay-for-performance initiative that focuses on the use of IT.

"Advanced IT systems are the only way to provide the highest-quality care and the best service for patients," he added.

Permanente is one year into a $4 billion, two-and-a-half-year project to replace a 10-year-old proprietary EMR system with a package from Epic Systems Corp. in Madison, Wis. By midyear, the system will hold the medical data of 2 million patients, Pearl said.

PEARL: Advanced IT systems are key to quality health care.

The goal of the consortium's founders is to accelerate the adoption of EMRs and the use of automated decision-support tools, said Jeff Rideout, Cisco's corporate medical director and vice president of its Internet business solutions group for health care.

The idea for the collaboration was born when the three firms started working together last fall on a project for the U.S. Department of Health and Human Services to develop a prototype of a national IT infrastructure to support the use of EMRs nationwide, he said.

Rideout said he expects the program to ensure quality health care for employees of the three vendors, many of whom are customers of member health care providers.

"We're doing this first and foremost to help people to adopt technology, but [also] with the belief that this will lead to improved outcomes and a better experience for our employees," he said.

The rewards will be based on the use of IT in documentation of treatment procedures, care management and patient education. The vendors will not recommend specific hardware or applications to meet the criteria, Rideout said.

Over the long term, the vendors plan to expand the consortium in locations where they have large concentrations of employees and invite smaller physician practices to join, he added.

IDC analyst Scott Tiazkun agreed that the collaborative is the first pay-for-performance initiative to focus on IT. But he questioned whether it can spur the use of EMRs by small physician practices.

"The financial incentives offered are a way to reward the 'haves' rather than creating electronic health record opportunities for the 'have-nots,'" Tiazkun said. ▸

India Aims to Tame Soaring IT Wages

BY PATRICK THIBODEAU

The rapid growth of Indian IT firms and strong demand for skilled workers is putting pressure on wages in India. The escalating personnel costs prompted one major software vendor, SAP AG, to start looking elsewhere for programming talent. In an interview with Computerworld, **Kiran Karnik**, *president of India's National Association of Software and Service Companies (Nasscom), spoke about the rising costs and how his group is working to address the problem.*

Is demand for Indian workers declining as a result of increasing costs? I wouldn't say so. Costs have been going up, but I think the advantages are so huge that cost is only one of the factors that most companies take into account.

How fast are IT wages increasing in India? At the entry level, it's between 10% and 12% a year. At the middle-management level, it's a little higher, about 15% to 20% [per year] over the last two years. But we see that as a temporary mismatch between demand and supply.

What can be done to address that mismatch? Market forces are naturally beginning to act, and you are getting a lot more people going into areas of high demand like IT [and] computer sciences. Nasscom has taken steps to look at the critical problem. It's not so much the absolute numbers [of available graduates], but the kinds of skill sets that this industry needs. We are looking at improving curriculum [and] teaching. It's really a focus on quality in the short term rather than numbers — because numbers by themselves are not the constraint.

Aren't those long-term initiatives? How do you solve the immediate problem of double-digit wage increases? I'm speaking of the short-term solution. The short-term fix is to do a six-month bridge course or finishing-school kind of concept. It's not that they lack standards, it's just that the education that they've gone through doesn't quite meet industry needs. What they need is six to eight months of additional work to get them to where you need them. We see that as the short-term fix.

What skills will be taught in these training programs? On the [business process outsourcing] side, communication and teamwork — things which you would broadly define as "soft skills" [that] are required in this industry but are not part of the core discipline at the university. Many [students] are very good at technology, but in terms of problem definition and looking at an issue in a more holistic way, there are gaps.

Second, there are sometimes gaps [in technology training]. They have the basics strong and well, but you need to do some training on the latest technology.

Is turnover among middle managers causing problems, and how do you deal with that? This is the big issue. We are trying to handle that problem [by looking] for lateral moves from other industries. Very often you need somebody who is a good project leader, someone who is able to handle business problems. Second, we are getting more people who are going here [from other countries] because the work is challenging and exciting.

Dell to Add 5,000 Call Center Workers in India

BY JOHN RIBEIRO

Dell Inc. plans to add about 5,000 workers to its Indian call centers over the next two years, CEO Kevin Rollins told reporters in Delhi last week.

In addition, Rollins said the company will start manufacturing PCs in that country at an undisclosed time and will double the size of its 300-person product development group in India over the next two years.

Dell's Indian operation currently develops and tests enterprise products, including servers and storage systems, he said. The company will increase its Indian call center staff from 10,000 to about 15,000 by 2008, Rollins said.

The expansion will include the opening of a fourth Indian call center in Gurgaon, which is near Delhi. It will open by the end of this year and employ between 700 and 1,000 workers, according to Dell.

Dell opened its first global customer contact center in Bangalore in 2001 and has since added call centers in Hyderabad and Mohali.

India is the only country in Dell's 30-site customer contact network that supports all worldwide geographic regions, according to the company.

Ribeiro writes for the IDG News Service.

DON TENNANT

Mass Sweating

I SAW IT the moment my 14-year-old daughter and I walked out of our local Home Depot here in Massachusetts a couple of Saturdays ago. There in the parking lot was my prized, pristine Miata, with a big dent in the right rear fender. Given that the dent wasn't there when we walked into the Home Depot, I wasn't too pleased.

DON TENNANT is editor in chief of *Computerworld*. Contact him at **don_tennant@computerworld.com**.

You know what goes through your mind. The hassle. The expense. The cowardice and selfishness of the person who hit it and then didn't bother to leave a note. I was, as they say, fit to be tied.

I was still fuming about it that evening when I was watching the news on TV. Until, that is, I watched a mother and father being interviewed about their daughter being struck and killed by a hit-and-run driver. She was 14.

I was, rightfully, even more angry at myself than I had been at the person who put a dent in my car. A stupid dent. It was a pretty good reminder of how important it is not to sweat the small stuff.

It's a reminder that a lot of people in Massachusetts would do well to ponder. Especially today, as Louis Gutierrez assumes his position as the state's CIO and takes a seat that had gotten too hot for his predecessor, Peter Quinn, who resigned last month.

What stoked the fire under that seat was, of all things, Massachusetts' plan to adopt the XML-based OpenDocument format as a standard for saving files. To give you an idea of what's at stake here, Sun's StarOffice productivity suite and IBM's Workplace support OpenDocument; Microsoft Office does not.

Massachusetts is the first major government entity in the U.S. to launch an OpenDocument plan — a troubling precedent for Microsoft and others who oppose the format. So, what was supposed to be a healthy debate on technology standards collapsed into a tawdry political battle. And Quinn, who was leading the OpenDocument charge, found himself in the political cross hairs.

It got to the point where an investigation was launched into out-of-state trips taken by Quinn to speak at technology conferences, prompted by questions from *The Boston Globe* about the propriety of such trips. When it was over, the *Globe* reported that Quinn was found to have done nothing wrong. But by then Quinn had had it.

"Enough is enough," Quinn told *Computerworld*'s Carol Sliwa in a recent interview. The investigation "definitely took its toll on me from a personal standpoint and a family standpoint."

Now it's Gutierrez in the spotlight. A 2002 *Computerworld* Premier 100 honoree and a widely respected IT leader, this guy is a class act. A lot of my colleagues and I have had the pleasure of working with him on a number of occasions over the past several years, and I can tell you there's just no finer gentleman or more capable IT professional who could have been called upon to serve at such a turbulent time.

If anyone can calm things down and get Massachusetts' IT priorities back on track, it's Gutierrez. His calm, reasoned bearing, his intellect and his demonstrated capacity to build consensus (Gutierrez oversaw the development of the state's highly praised Virtual Gateway online portal, which integrated information from the disparate systems of 16 state agencies) will serve him and the state's residents well.

With Gutierrez in his new position, other state governments will have any number of reasons to emulate Massachusetts. Sweating over a dent-in-the-Miata file format shouldn't be one of them. ▸

Don Tennant

BRUCE A. STEWART

Time to Think About Your Legacy

"NO MORE outsourcing!" It's the recurring cry of today's IT department.

Why shouldn't we outsource? We're all getting older; it's getting harder to find people to replace us. Skills such as PL/1, IMS and the like haven't been taught for years.

What holds us back are the decrepit systems that are — our friends. They're our reason for coming into work, our reason for enjoying this IT life. "My" system — the one I had a hand in building all those years ago.

So why aren't we doing the right thing? Why do we hang on to these relics of the past to the point where finding a sourcing partner to deal with them starts to look more attractive?

BRUCE A. STEWART is a former CEO and onetime senior vice president and director of executive services at Meta Group Inc. He is now an executive adviser in Vancouver, British Columbia. He can be contacted at **bruce@bastewart.com**.

"The users will never pay to rewrite these," we say. But when was the last time anyone actually asked them? And, if users were asked, were they asked about a business decision, or were they told about obsolete programming languages, dead databases and hot new technologies?

When we ask about replacing our friends and try to be convincing by talking about our issues, we're setting ourselves up for a "no." But then, that's what we really wanted anyway.

For the past two decades, India and other outsourcing destinations have been churning out millions of graduates who have been trained in both old technologies and the latest ones. Meanwhile, in North America, the number of people who prepare for a life in IT continues to fall. We stopped training people to look after all the legacy code that runs our companies, and we didn't think about what the outcome would look like.

It looks like we're trying to solve a human resources problem over-

seas. That's what it looks like.

The typical U.S. IT shop hasn't done anything interesting in years. Consultants have done all the heavy lifting. No wonder the top third of graduates go to work in the vendor community!

To keep IT jobs at home, it's going to take more than outcry and protest. It's going to take hard-nosed action. We're going to have to put our old friends to sleep. Here's what we have to do to take charge:

First, we must do serious analysis. What is the true quality of the existing application portfolio? What does the average minor change cost? What's the minimum number of people who have the required skills we'll need if we keep this system? How well does this system fit the work being done in the business today? If it didn't exist, would we build it — or something very different? This analysis is not needed only on a system-by-system basis; it must also look across the infrastructure to see where savings could be found through change.

Second, we must sell change. We must talk in terms of business productivity, execution costs, increased responsiveness, information density and usage effects. We need to be the ones who put a pro forma business case down for an architected outcome.

Third, we must execute, and do it ourselves. That will require reorganizing, learning and managing risk. Only by taking on the job — not by hiring the consultants — will we be credible rebuilders.

The choice is ours: Leave the next generation with the next generation of systems, or leave them to India. What is your legacy going to be?

JOHN D. HALAMKA

Goodbye to Blanche DuBois

IN TENNESSEE WILLIAMS' *A Streetcar Named Desire*, Blanche DuBois comments, "I have always depended on the kindness of strangers." The Internet has worked on the principle that you can generally trust anonymous users but can also isolate technological bad actors with firewalls, proxy servers and intrusion detection.

Alas, those days are gone, and end-to-end security now requires complete control over everything, from the keyboard to the hard drives spinning in the data center. We can no longer depend on the kindness of strangers on the Internet. We can't even trust our friends and co-workers to keep us safe from technological malfeasance.

JOHN D. HALAMKA is CIO at CareGroup Health System, CIO and associate dean for educational technology at Harvard Medical School, chairman of the New England Health Electronic Data Interchange Network, CIO of the Harvard Clinical Research Institute and a practicing emergency physician. Contact him at **jhalamka@caregroup.**

At Boston's Beth Israel Deaconess Medical Center and Harvard Medical School, over half our help desk calls are related to spyware, Trojan horses and keystroke loggers planted on desktops from infected Web sites. Wireless access points need to be secured with usernames and passwords for both employees and guests to prevent virus-infected laptops from launching denial-of-service attacks. Visiting faculty members who plug their laptops into the wired network could introduce maladies to other users. Employees who use home computers (beyond the control of our antivirus program) to access Web-based resources risk having their credentials intercepted by spyware.

In a hostile environment where 2 million spam messages are filtered every day and hackers attack every seven seconds, what are we to do?

We could thwart keystroke loggers by using hardware tokens with constantly changing PINs.

We could use 802.1x technologies to require credentials for every device, preventing unsanctioned network access by visiting faculty.

We could implement stateful inspection technologies such as Cisco Security Agent, which examines desktops for patches and antivirus software, based on central policies, before granting them an IP address on the network.

We could require registration of all Ethernet card MAC addresses before allowing wired or wireless connections to the network. (MAC addresses can be spoofed, so this is of only limited effectiveness.)

We could require an SSL VPN for all remote access, enabling us to have a single point of control and filtering for all Internet-based applications.

About the only way to defeat many attacks would be a throwback to 1970s serial terminals and mainframes — unmodifiable thin-client devices connected to a Citrix application server. Each byte flowing would be centrally controlled, and the desktop would be locked down.

With all these measures, we might end up with a system so secure that no one could use it. The most secure library in the world is the one that never allows books to be checked out.

Imagine this scenario: A clinician needs critical data about a dying patient. The clinician fumbles with a hardware token and mistypes his eight-character, alphanumeric, mixed-case non-English password and token PIN three times and is locked out for five minutes. He grabs a wireless laptop and asks another clinician to authenticate because he's locked out. Seconds pass as the laptop uses EAP-FAST authentication and a supplicant checks for antivirus updates and patches. A new Microsoft patch is missing, and the clinician is denied access until it's downloaded and the machine is rebooted. Then the antivirus software scans to ensure that the modified desktop is uninfected. After five minutes, the clinician gets access to the needed data.

Although this example is a bit extreme, it does illustrate that security is a balance between complete protection and ease of use.

Security is one of my top priorities in 2006. I can no longer trust internal users or home access via the Internet. The balance needs to swing toward protection, away from ease of use. Alas, Blanche, we can no longer depend on the kindness of anyone.

WANT OUR OPINION?

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www.computerworld.com/columns

READERS' LETTERS

Open-source Risks Were Overstated

THE RISKS regarding open-source software licenses described in "Law and Order on the Open-source Range" [Dec. 5] do exist, but the same risks exist with commercial software: Any developer who would use someone else's code without checking the license would also likely copy a commercial library and assume that it was paid for and therefore available to be distributed.

And technically, but importantly, no one is forced to convert his code to free/open-source because he shipped a product with "coercively" licensed third-party software; he always has the option of shipping a patched version without said third-party software. One accidental shipment is unlikely to be judged a serious violation, and I don't believe there have been any cases to the contrary.

Larry West
Software engineer, San Diego

Protect Yourself, Or Government Will

JAIKUMAR VIJAYAN'S article "Focus on Compliance Could Weaken Info Security, Experts Warn" [Nov. 21] is well stated. However, the increasing number of acts such as Sarbanes-Oxley, Gramm-Leach-Bliley and HIPAA is also testimony to the failures of information security.

Legislators, led by their constituents, are saying to business and government, "If you won't effectively protect yourselves and others that you serve voluntarily, we will force you to do it."

Many information security professionals fail to understand that as long as we have unknown vulnerabilities, uncontrolled known vulnerabilities and intelligent unknown enemies worldwide ready to attack us, then it is the enemies who control and manage the risks, not the defenders.

Donn B. Parker, CISSP
Los Altos, Calif.

Health Exchange Needs Security

THE STORY on Indiana Health Information Exchange Inc. ["Indiana Health Net Breaks New Ground on E-records," Nov. 28] described a valuable initiative to integrate systems and exchange data for the benefit of the health providers, insurers and presumably patients as well.

However, the story seemed not to address the security, privacy or HIPAA implications. One can only hope that these matters were indeed addressed and that the project included encryption, authentication, authorization and access controls.

Alan Mercer
Director, technology integration, Baltimore

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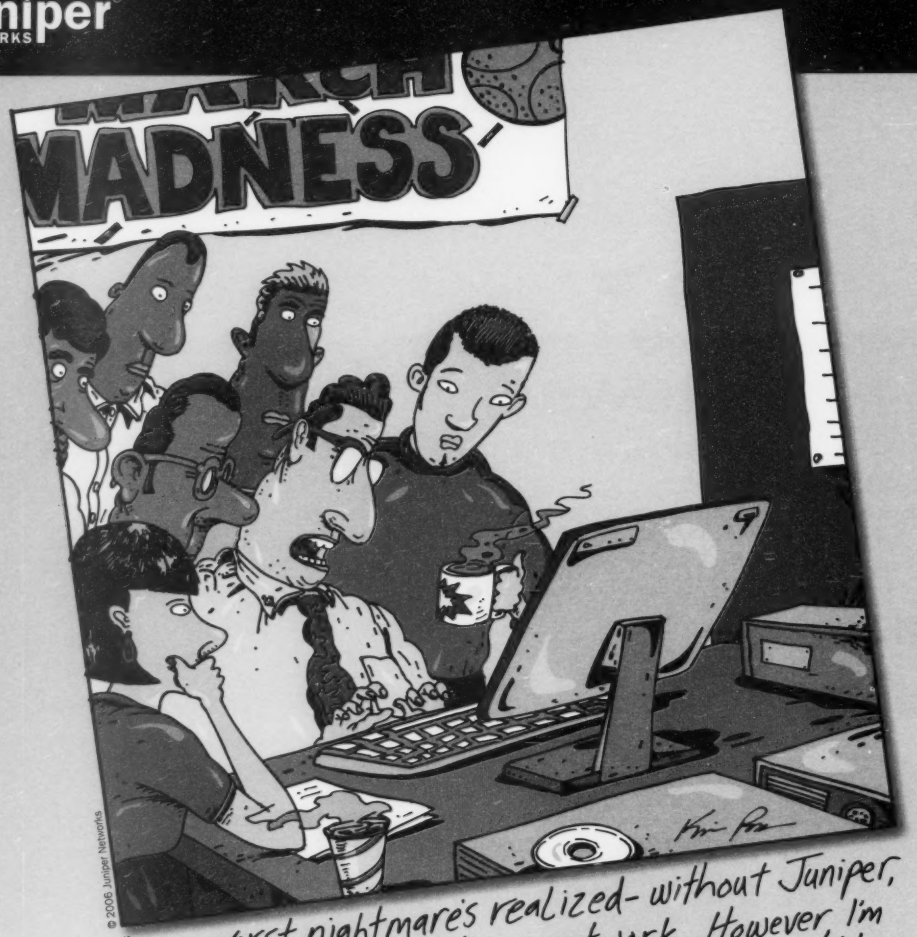

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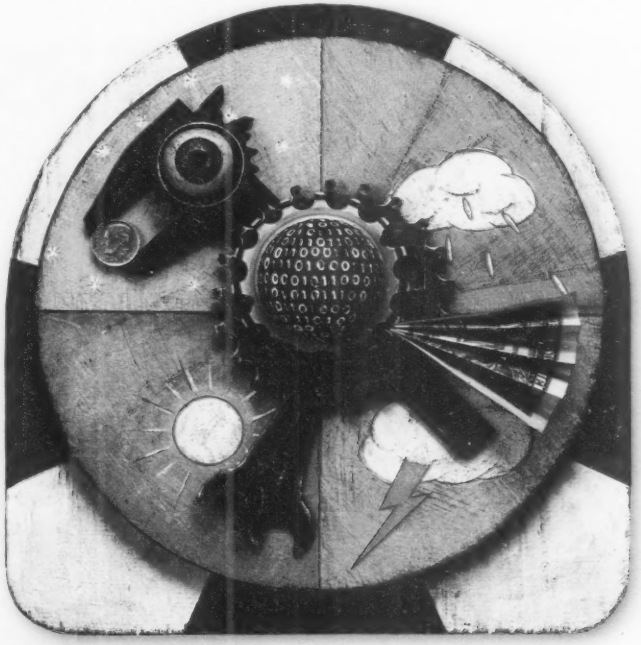
FUTURE WATCH
Self-Taught
Researchers like Stanford University's Sebastian Thrun are driving machine learning into the mainstream — literally. **PAGE 28**

SECURITY MANAGER'S JOURNAL
Implementing Change Is Never Plug-and-Play
Problems arise rapidly as Mathias Thurman's digital rights management project gets under way. **PAGE 29**

Q&A
IT Struggles With Climate Change
In the race to track global-warming trends, technology just can't keep up. Faster networks and more computing power are needed to address this monumental task, say two experts. **Page 27**

MARIA RENDON



Calibrating TOWARD COMPLIANCE

Computerworld looks at how five companies chose tools to help in the never-ending process of regulatory compliance.

FOR MANY corporate executives, complying with the Sarbanes-Oxley Act of 2002 is a lot like cleaning out a cluttered basement — dreaded and tedious, but necessary.

That's because the federal law requires business managers to continually identify, monitor and verify that they have effective financial controls in place.

Now that most large publicly held firms have gone through at least one round of meeting these so-called Section 404 requirements, many executives have recognized the need to automate those controls processes in order to make those activities repeatable and cheaper to maintain. Big companies like Time Warner Inc. and The Dow Chemical Co. each devoted hundreds of thousands of man-hours in 2004 to manually identifying, evaluating and testing their business and IT controls.

BY THOMAS HOFFMAN

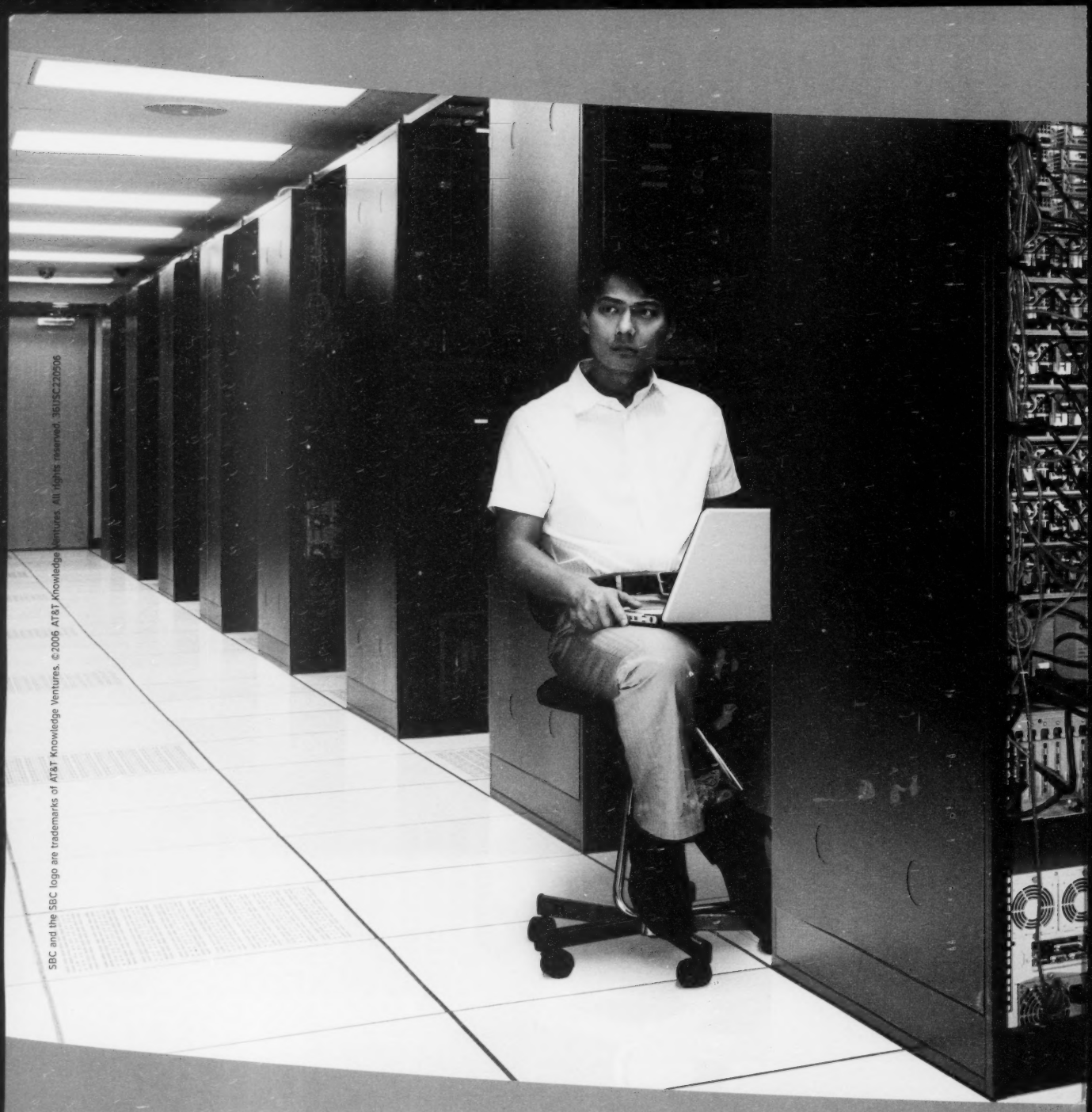
"We have to figure out how to make [Section 404 controls verification] more efficient," says Ron Edmonds, global accounting director at the Midland, Mich.-based chemical manufacturer.

Some companies have invested in software to help them automate their controls activities. Here's a look at five companies that have taken the plunge, the functionality they like best in the third-party compliance packages they each use and what features they'd like to add.

CONSTELLATION ENERGY, Baltimore

- **Charter:** Generator, supplier and distributor of electric power
- **Modules in use:** BindView Admin for Windows and Exchange 7.2, BindView Control for Windows and Active Directory and Exchange 8.0, BindView Control for Oracle Database 8.1, BindView Control for Unix 8.0 and BindView Compliance Center 2.1, from BindView Development Corp. (acquired last month by Symantec Corp.)
- **Requirements:** In 1999, Constellation Energy began using a suite of network monitoring software called BindView Control to determine which of its servers and applications various employees had access to. The software identifies financial information that resides on those applications and servers to help Constellation Energy determine whether it has the appropriate controls and so-called segregation of duties in place. That allows it to restrict access to that information in order to meet the requirements of regulations such as the Sarbanes-Oxley Act and the Health Insurance Portability and Accountability Act.

Continued on page 24



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Continued from page 21

■ **How the software works:** The BindView Control modules examine access-control lists for Constellation Energy's Oracle, Windows and Unix systems.

"Some of the things we're looking for are not only who has access to the servers but the applications on that server as well," says John Petruzzi, director of enterprise security at Constellation Energy.

Meanwhile, the Compliance Center module takes a snapshot of the company's IT controls environment to indicate "where we need to focus our attention" in terms of remediation and testing, says Petruzzi.

■ **Customization required:** BindView's professional services division customized the reporting capabilities for Constellation Energy.

■ **Additional server/storage required:** The storage requirements for the reports produced by the BindView systems are nominal, say Petruzzi, ranging from a few kilobytes to just under a megabyte. Since the BindView tools need to query each machine in Constellation Energy's IT environment, reports are scheduled to run during nonpeak hours to avoid taking away computing cycles from other business processes.

■ **Favorite functionality:** The ability to take a "snapshot" of Constellation Energy's IT environment from a manager's desktop, says Petruzzi.

■ **Desired functionality:** The ability to monitor multiple IT-related regulations from a single viewpoint in order to avoid duplicating work. Symantec is adding that feature to the BindView Policy & Compliance Management software in the first quarter.

CHICAGO MERCANTILE EXCHANGE

■ **Charter:** Futures exchange and clearinghouse

■ **Modules in use:** Movaris Certainty 8.0, from Movaris Inc. in Cupertino, Calif.

■ **Requirements:** The exchange began using Movaris Certainty 8.0 to help it meet several Sarbanes-Oxley-related compliance requirements. For starters, the software enabled the CME to migrate all of its compliance documents into the Movaris system to create a single-source compliance data model, an approach that makes it easier for the exchange to store and track all Sarbanes-Oxley compliance documentation.

■ **How the software works:** Movaris Certainty allows the CME to document, report and review its internal controls. The software, which sits on an Oracle database, provides the CME with a single-source data model for all of its Sarbanes-Oxley compliance data.

Movaris also provided the CME with a five-question survey to pose to its process-control owners, which the CME's internal audit group aggregated "and allowed us to focus on the exceptions," says John Verburgt, the CME's associate director of compliance.

■ **Customization required:** The CME customized the system "around the personality of the way we work," says Verburgt. The Chicago-based exchange made simple changes to the software, such as tweaking the language used in the system and adding logos. "Nothing significant in terms of effort," says Verburgt.

■ **Additional servers/storage required:** None.

■ **Favorite functionality:** The ability for process-control owners to make use of workflow capabilities to review, examine and test internal controls, says Verburgt. Also, the ability to add user-defined configuration fields without any customization.

■ **Functionality desired:** A financial control data mart, which would provide the CME's executives with graphical views of the performance of financial control operations. Movaris has incorporated these capabilities into Movaris 9.0, and the exchange plans to implement the system by April, says Verburgt.

FIRSTENERGY CORP., Akron, Ohio

■ **Charter:** Diversified energy company

■ **Modules in use:** Certus Governance Suite, from Certus Software Inc. in Cupertino, Calif.

■ **Requirements:** FirstEnergy wanted a software package that could help it automate the internal-controls documentation and testing activities it needs to comply with Section 404 of Sarbanes-Oxley.

The software it began implementing last June from Certus enables managers at FirstEnergy to view which business and IT controls they have across multiple financial systems and operations, all the way down to the account level.

In using the software, "everything is in one place, so you have total visibility instead of having to rely on hundreds of spreadsheets," says Alan Michel, manager of internal audit at the energy company.

■ **How the software works:** The software identifies the risks and assertions tied to various accounts and then maps those accounts back to the controls that support them, according to Michel. The software also instructs users on how to schedule and test internal controls throughout the organization.

If there are any issues or discrepancies with a given control, they are sent through workflow for remediation and testing.

■ **Customization required:** None.

■ **Additional servers/storage required:** FirstEnergy added servers and software to support its test and production environments.

■ **Favorite functionality:** The software "gives you complete visibility" on what controls are in place to support each account, and vice versa, says Michel.

■ **Functionality desired:** The ability to determine which accounts are "significant" and whether they're in scope, says Michel. Also, the ability to provide greater transparency between entity-level controls, business process controls and IT controls.

SUNTRUST BANKS INC., Atlanta

■ **Charter:** Commercial bank

■ **Modules used:** SOX Express, from OpenPages Inc. in Waltham, Mass.

■ **Requirements:** SunTrust wanted a software package that could help business managers monitor the controls that each of their departments use to support the bank's collective financial reporting. In addition, senior executives at the bank are able to use a software dashboard to determine whether company managers have verified that appropriate controls are in place to support their departments' business activities.

Prior to using software from OpenPages, SunTrust's managers used Excel spreadsheets and Microsoft Office Visio software to monitor their internal controls. But the process was extremely manual, says Martha Keith, group vice president in financial reporting risk management.

■ **How the software works:** Users can enter their IDs and passwords to access the software on SunTrust's network, or they can use tokens through the company's VPN. People can view the processes they're responsible for and the controls that support them through SunTrust's security provisions, says Keith.

If there are any control deficiencies, process owners can create an action plan, have the problem remediated and then retest the control in question. At the end of each quarter, senior management reviews all of the controls to determine whether they have deficiencies that might affect the company's financial reporting.

■ **Customization required:** No customization was required, just configuration of the data to match SunTrust's business processes.

■ **Additional servers/storage required:** SunTrust acquired an eight-way server for its production environment and used existing servers for its testing and quality-assurance environments.

■ **Favorite functionality:** A dashboard view of the controls environment allows users to "drill down" to the reasons behind a control deficiency and determine where it stands in terms of remediation and testing, says John Wheeler, senior vice president of financial reporting risk management at SunTrust.

■ **Functionality desired:** SOX Express 4.0, due out this spring, "will allow us to configure our own [data] fields," says Keith. Wheeler would like to be able to load SunTrust's financial data into the system, a capability that he says OpenPages is currently addressing.

UGS CORP., Plano, Texas

■ **Charter:** Provider of product life-cycle management software

■ **Modules in use:** BizRights, from Approva Corp. in Vienna, Va.

■ **Requirements:** UGS began implementing Approva's BizRights system last May to identify and correct any segregation-of-duties violations with its SAP ERP system in order to comply with Sarbanes-Oxley.

■ **How the software works:** BizRights provides UGS managers with a view of the segregation of duties across its SAP ERP environment. The BizRights software analyzes whether there is appropriate segregation of duties among business managers and compares that with a "rule book" that's incorporated into the software. So if a manager is responsible for cash applications, the system can determine whether he is authorized to conduct accounts-receivable adjustments, says Jeff Greiner, director of enterprise applications engineering at UGS.

■ **Customization required:** None.

■ **Additional servers/storage required:** BizRights currently runs on a Dell Windows-based server "that's a little underpowered," says Greiner. UGS is upgrading to a more powerful Windows-based server this year at a cost of $10,000.

■ **Favorite functionality:** Minimal administration is required. Also, BizRights has helped UGS significantly reduce its reliance on external auditors to gather segregation-of-duties information from its SAP environment, says Tom Beitel, UGS's internal audit director.

■ **Functionality desired:** "A systems administration tool where I can see what's going on," says Greiner. ▸

Who was selected as best in BI?

Siebel Business Analytics
Best Business Intelligence Application
Award Winner

Siebel Business Analytics received the most prestigious BI award because unlike traditional BI vendors, Siebel meets the new business demands of enterprise BI. Siebel delivers richer, real-time intelligence for everyone across your enterprise. Working seamlessly with your existing systems and data warehouses, Siebel's mission-critical BI architecture supports multi-terabytes of data and thousands of users. And Siebel's pre-built solutions embed industry-specific best practices that are flexible, quickly implemented, and deliver low TCO.

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Right FROM THE START

Some companies are starting to use application life-cycle management tools to address Sarbanes-Oxley compliance issues within the application development process.

BY HEATHER HAVENSTEIN

WHILE MUCH of the work to comply with the Sarbanes-Oxley Act has been focused on adding controls to business processes and systems related to financial reporting, some companies are beginning to tap application life-cycle management tools to address Sarbanes-Oxley compliance as part of the application development process.

These companies are using tools to automate development and documentation processes. That documentation can then be audited to detail who has accessed code and what changes have been made. It can also be used to track what testing and quality assurance have been done when building applications or changing existing ones that fall under the act's scope. Some companies are finding that these compliance efforts are yielding additional rewards, like reducing costly rework by automating the change management aspects of programming.

Israel-based Teva Pharmaceutical Industries Ltd., which generates 91% of its revenue from sales in the U.S. and Europe, has replaced its paper-based application development workflow with change management and code-change tools from MKS Inc. over the past year. In addition to helping Teva meet regulatory requirements, the tools have allowed the company to attach electronic signatures to software change requests as required by the U.S. Food and Drug Administration. Teva has also been able to virtually eliminate its rework requests by using the tools to verify that changes are meeting business user requests, says Tom Loane, vice president and CIO of Teva North America.

Teva's old paper-based process for requesting development work centered around a seven-page form that had to circulate among employees in the U.S. and Israel to get four required sign-offs — from the user requesting the change, the programmer, the tester and the quality assurance employee — for the 1,000 software changes the company makes annually.

Teva is replacing that process with MKS Integrity Manager, which prescribes the process and manages the workflow associated with code changes. The tool creates a document trail that records all activity, from the time a request for a change is made to when the code is moved into production. A workflow engine sends e-mail notifications to team members when work is requested, performed or completed, or when requirements have changed.

Because Teva has combined Integrity Manager with MKS's Source Integrity software configuration management tool, programmers can check out the source code needed for the change request. All the changes are also recorded and compared against the details in the request for the change. As a result, Teva can "freeze" an activity during the development process to see what changes were made before or after that point.

"We're controlling things seven time zones away, [and] this rolls out a clean pattern of what the heck happened in any situation," Loane says. "It is not hard to prove what you did."

But automating the process had its challenges. First, Teva tried to replicate the paper process in the tool, which Loane says amounted to "automating a bad process and making it worse." Then the company took several months to devise a new process that treated all development as change, including new development and changes to existing systems, he says. In addition, the company began using the MKS tools to provide authorization for user access that required approval from a manager.

Software Configuration Management Advantages

Application life-cycle management tools help with Sarbanes-Oxley compliance because they enable the following:

PROCESS ENFORCEMENT: Compliance requires defining, implementing and enforcing software development processes. When performed manually, these activities are time-consuming and error-prone.

TRACEABILITY: Companies are able to demonstrate that systems do what they are designed to do by linking requirements, coding and test cases together – and ensuring that they correspond – while enforcing change management policies.

AUDITING: Auditing records the history of requirements, coding and testing, including information about who changed what when and why to allow users to show that controls are in place for changes to applications.

SOURCE: FORRESTER RESEARCH INC., CAMBRIDGE, MASS.

Since it ironed out those problems, Teva has been through two successful audits for Sarbanes-Oxley compliance, Loane says. In addition, the tool has helped to boost the quality of overall application development because the company added a step in the process to query the requester of the change about his satisfaction with that change.

"It is a neat check to make sure we are really listening to what people are saying," Loane says. "We haven't gotten any requests for rework after the fact. Everyone knows we are going to ask the user if they got what they asked for, [and] it tends to improve the quality overall."

ADM Investor Services Inc. last year expanded its use of Alexsys Corp.'s team management tools. Instead of just tracking help desk problems, it's now used throughout ADM's development process as part of Sarbanes-Oxley compliance, says Sam Helmich, vice president of technology at the Chicago-based futures trading company.

The subsidiary of Archer Daniels Midland Co. reconfigured the system so that as employees put in requests for programming projects, those requests are automatically sent to be approved by managers and reviewed by business analysts. They are then sent to the developers and testers who perform the work, he says. Before going to production, the original requester can review proposed changes to see if they meet the business need, Helmich says.

The system also documents installation instructions and can allow the installer to acknowledge that such instructions were followed, he adds.

TRACKING CHANGES

The Robert Mondavi Corp. is using TeamTrack process and issue management software from Serena Software Inc. to help support regulatory compliance, based on the advice of auditors who saw the tool being used to track and prioritize application change requests, says Brian Shelden, director of IT at the Oakville, Calif.-based winemaker.

Mondavi has also begun using TeamTrack to track changes made to applications, from the request for a change all the way to production, Shelden says. For example, the tools are used to document when changes are made in response to calls to a help desk or to track product price variations from state to state, he adds.

"[Sarbanes-Oxley] requires us to document where the request was coming from, who requested change, what review process that went through, who was involved in approving those changes and what changes where made to ERP applications," Shelden says. "TeamTrack allowed us to have an audit trail of that process."

John Hagerty, an analyst at AMR Research Inc. in Boston, says most companies working to comply with Sarbanes-Oxley have yet to use software to document application development processes. Most, he says, are still using manual processes for change management because they have not seen tangible advantages in using IT for compliance.

Making changes to applications "can change or invalidate the controls that have been put in place to run the business," Hagerty says. "Or, companies will make a change and forget to change the documentation when they should be making the changes to the written documentation and then making changes to the system."

IT STRUGGLES WITH Climate Change

Climatologists tracking global warming need all the computing horsepower they can get. Here's why.

Q&A *Corporate IT managers who never seem to have enough CPU power, disk space, bandwidth or funding might take comfort from U.S. climate scientists.* Computerworld's *Gary H. Anthes recently talked with two of them and learned that even having access to the world's most powerful information systems is not enough.*

Patrick Heimbach *is a research scientist in physical oceanography at MIT, and* **James Hack** *heads up climate modeling at the National Center for Atmospheric Research in Boulder, Colo. Both scientists use their own organizations' computer systems, as well as those at supercomputer centers around the U.S. (see box at right).*

What are you working on at MIT?

HEIMBACH: We are trying to see if we can simulate, if we can understand, what the ocean has been doing over the last couple of decades. Are we heading toward a warmer world? Is [warming due to] internal variability of the [ocean]ic and atmospheric] system, or is there something we are doing to the system?

Patrick Heimbach

Do you have the computational power to do that?

HEIMBACH: What we ultimately would like to run we can't currently fit on any computer. We would need on the order of 20,000 processors, and probably two orders of magnitude faster processors. Each supercomputer center allocates a certain amount of computing time to a specific group. So we have to size down the problem we are addressing for that specific machine.

So it seems you must beg, borrow and steal computer resources for this work.

HEIMBACH: We have to find the cycles where we can find them. But even for the machines that are available, if we really wanted to go to the actual [spatial] resolutions that we need, we probably would not be able to fit those problems on those machines. Give us any machine, and we can immediately fill it with an interesting problem, and we'll still have the feeling we are limited.

James Hack

HACK: Climate and weather applications . . . push high-performance computer technology. A decade ago, global climate applications benefited from the extraordinary memory bandwidth of proprietary high-performance architectures, like the parallel vector architectures from Cray and NEC. As scientific computing migrated toward the commodity platforms, interconnect technology, both in terms of bandwidth and latency, became the limiting factor on application performance and continues to be a performance bottleneck.

Is the Internet adequate for connecting you to the supercomputer centers you use around the U.S.?

HEIMBACH: Transferring several terabytes of data from NASA Ames [Research Center] to MIT is just overwhelming to do in a reasonable time. As of a year ago, we were limited by the 100Mbit/sec. bandwidth of the network that connects our department to the outside world. The best sustained rates that could be achieved were on the order of 55Mbit/sec. That would bring us to a transfer time of 1.7 days per ITB of data.

We now have better connection to the high-speed Internet2 Abilene network, with its 10Gbit/sec. cross-country backbone. The bottom line still is we need much higher bandwidth, less network congestion and smart transfer protocols, such as the large-files transfer protocol [bbFTP], that minimize CPU load.

HACK: The so-called sneakernet continues to provide the best bandwidth for moving large data sets between computing centers — shipping data on tapes or disk via overnight services. We are engaged in some emerging computational projects that will generate hundreds of terabytes per experiment. Moving that data is a significant challenge. Storage and access to that data for analysis purposes is a comparably challenging technical task.

How adequate is supercomputer capacity in the U.S. for scientific research?

HACK: One could argue that there will never be enough supercomputing capacity. In [a] sense, scientific progress is paced by the availability of high-performance computing cycles. And the problem becomes more acute as the need to address nonlinear scientific problems in other disciplines, like material science, computational chemistry and computational biology, continues to grow.

There remains some controversy about global warming. Could better climate models and/or better computer technology help resolve that?

HACK: For many scientists, it's not a question of whether the planet will warm, but more a question of how much the planet will warm and what form the regional distribution of that warming will take. Answering . . . these questions will require additional levels of sophistication in global climate models, such as improved resolution and extending existing modeling frameworks to include fully interactive chemical and biogeochemical processes. These kinds of extensions are . . . extremely expensive in computational terms. We will require a minimum of a twenty-five-fold improvement in computational technology to enable the next-generation model [in] three to five years.

HEIMBACH: You need to run coupled ocean-atmosphere simulations over 10 to 100 years. We think that these models, and the underlying model errors, are still such that we need to do more basic research to understand the errors better. That's what we are trying to address.

Should the federal government be doing more to fund supercomputer research and supercomputer capacity?

HACK: The federal government should treat supercomputer technology in the same way that it treats other strategically important areas, like those related to national defense and national security. It's too important to the nation's scientific and economic competitiveness to be left to chance. ▸

BIG IRON, BIG PIPES, BIG PROBLEMS

Here are just a few of the systems that climate scientists are using today to research global warming trends. MIT's Patrick Heimbach says his goal is to have access to 20,000 processors that are each 100 times faster than what he's using today.

MIT

Alliance for Computational Earth Science (ACES) PC Grid

- 500 Pentium 4 CPUs
- 1TB of memory and 10TB of near-line storage
- User sites connected by 10Gbit/sec. Ethernet. PCs connected by 1Gbit/sec. Ethernet

National Center for Atmospheric Research

Blue Sky

- 1,600, 1.3-GHz Power4 CPUs
- 2GB memory per processor
- 8.3TFLOPS peak performance
- 31TB disk capacity

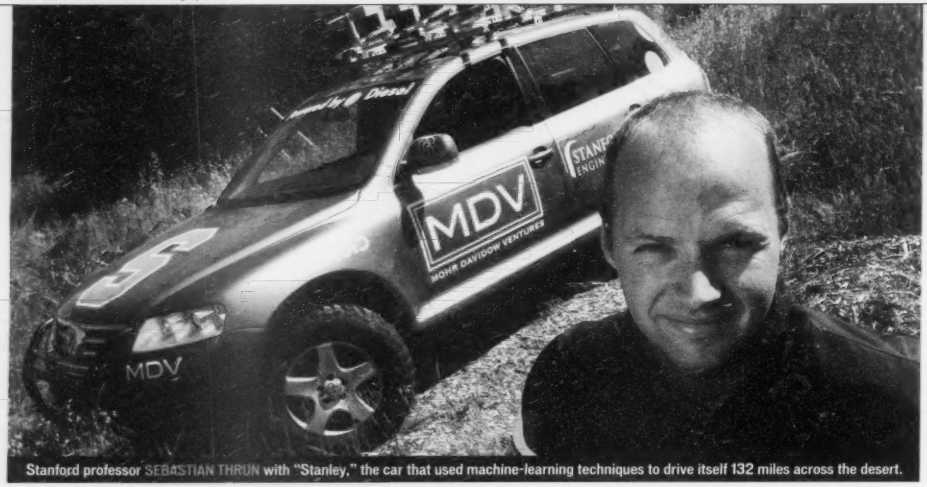
NASA Ames Research Center, Moffett Field, Calif.

Silicon Graphics Altix 3000

- 20 Altix or Vortex systems, each with 512 1.5-GHz Itanium 2 CPUs and 3.8MB to 7.6MB of memory

Abilene Network

- An Internet2 backbone IP network to 220 universities and research labs
- OC-192c (10Gbit/sec.) backbone employing optical transport technology and advanced high-performance routers



Stanford professor SEBASTIAN THRUN with "Stanley," the car that used machine-learning techniques to drive itself 132 miles across the desert.

SELF-TAUGHT

Machine-learning techniques have been used to create self-improving software for decades, but recent advances are bringing these tools into the mainstream. **BY GARY H. ANTHES**

ATTEMPTS TO create self-improving software date to the 1960s. But "machine learning," as it's often called, has remained mostly the province of academic researchers, with only a few niche applications in the commercial world, such as speech recognition and credit card fraud detection. Now, researchers say, better algorithms, more powerful computers and a few clever tricks will move it further into the mainstream.

FUTURE WATCH

And as the technology grows, so does the need for it. "In the past, someone would look at a problem, write some code, test it, improve it by hand, test it again and so on," says Sebastian Thrun, a computer science professor at Stanford University and the director of the Stanford Artificial Intelligence Laboratory. "The problem is, software is becoming larger and larger and less and less manageable. So there's a trend to make software that can adapt itself. This is a really big item for the future."

Thrun used several new machine-learning techniques in software that literally drove an autonomous car 132 miles across the desert to win a $2 million prize for Stanford in a recent contest put on by the Defense Advanced Research Projects Agency. The car learned road-surface characteristics as it went. And machine-learning techniques gave his team a productivity boost as well, Thrun says. "I could develop code in a day that would have taken me half a month to develop by hand," he says.

Computer scientist Tom Mitchell, director of the Center for Automated Learning and Discovery at Carnegie Mellon University, says machine learning is useful for the kinds of tasks that humans do easily — speech and image recognition, for example — but that they have trouble explaining explicitly in software rules. In machine-learning applications, software is "trained" on test cases devised and labeled by humans, scored so it knows what it got right and wrong, and then sent out to solve real-world cases.

Mitchell is testing the concept of having two classes of learning algorithms in essence train each other, so that together they can do better than either would alone. For example, one search algorithm classifies a Web page by considering the words on it. A second one looks at the words on the hyperlinks that point to the page. The two share clues about a page and express their confidence in their assessments.

Mitchell's experiments have shown that such "co-training" can reduce errors by more than a factor of two. The breakthrough, he says, is software that learns from training cases labeled not by humans, but by other software.

Stuart Russell, a computer science professor at the University of California, Berkeley, is experimenting with languages in which programmers write code for the functions they understand well but leave gaps for murky areas. Into the gaps go machine-learning tools, such as artificial neural networks.

Russell has implemented his "partial programming" concepts in a language called Alisp, an extension of Lisp. "For example, I want to tell you how to get to the airport, but I don't have a map," he says. "So I say, 'Drive along surface streets, stopping at stop signs, until you get to a freeway on-ramp. Drive on the freeway till you get to an airport exit sign. Come off the exit and drive along surface streets till you get to the airport.' There are lots of gaps left in that program, but it's still extremely useful." Researchers specify the learning algorithms at each gap, but techniques might be developed that let the system choose the best method, Russell says.

The computationally intensive nature of machine learning has prompted Yann LeCun, a professor at New York University's Courant Institute of Mathematical Sciences, to invent "convolutional networks," a type of artificial neural network that he says uses fewer resources and works better than traditional neural nets for applications like image recognition. With most neural nets, the software must be trained on a huge number of cases for it to learn the many variations — size and position of an object, angle of view, background and so on — it's likely to encounter.

LeCun's technique, which is used today in bank check readers and airport surveillance systems, divides each image of interest into small regions — a nose, say — and then combines them to produce higher-level features. The result is a more flexible system that requires less training, he says.

Intelligent Design – Not

Meanwhile, research is pushing forward in a branch of machine learning called genetic programming (GP), in which software evolves in a Darwinian fashion. Multiple versions of a program — often thousands of them generated at random — set to work on a problem. Most of them do poorly, but evolutionary processes pick two of the best and combine them to produce a better generation of programs. The process continues for hundreds of generations with no human intervention, and the results improve each time.

GP pioneer John Koza, a consulting professor in electrical engineering at Stanford, has used the method to design circuits, controllers, optical systems and antennas that perform as well as or better than those with patented designs. He recently was awarded a patent for a controller design created entirely by GP.

It is, like biological evolution, a slow process. Until recently, computer power was too expensive for GP to be practical for complex problems. Koza can do simple problems on laptop PCs in a few hours, but the controller design took a month on a 1,000-node cluster of Pentium processors.

"We started GP in the late 1980s, and now we have 1 million times more computer power," Koza says. "We think sometime [within] 10 years we ought to be able to play in the domain of real engineers."

Implementing Change Is Never Plug-and-Play

A digital rights management project illustrates to our security manager how complications can multiply. By Mathias Thurman

SECURITY MANAGER'S JOURNAL

THE PATCH management process I talked about instituting two weeks ago ["WMF Vulnerability Sparks Patch Program," Jan. 23] got off to a good start, though things have slowed down.

Immediately after we pushed the patch for the Windows Metafile vulnerability to all desktops, our Systems Management Server reported 60% completion. But a workstation isn't considered patched until it's rebooted, and a lot of users are slow to do that. We've forced reboots in the past, but when users lost unsaved source code or other critical work, we got complaints that IT was affecting revenue generation.

Now, after two weeks, we're still at only 80% compliance; my goal is 97%. It creeps up one or two percentage points per day now, which is pitiful.

I've decided that we'll e-mail users who haven't rebooted their desktops and follow up with e-mails to their managers. At some point, I will order a forced reboot and take the heat for any repercussions. There's no reason why a user can't save his work and reboot.

More Frustration

Besides getting patch management off the ground, I'm still frustrated by the digital rights management project. DRM involves encrypting a document and wrapping it in technology that controls access per an established policy.

Access to a particular document can be limited to a certain group of users, and what various users can do with the document can also be restricted so that some, for example, can only read it, not edit it.

I wanted to apply DRM protection to both Microsoft Office documents and Adobe PDFs, but it turns out that our technology choices are limited for a somewhat complicated reason, so we will be starting a pilot of Adobe LiveCycle Policy Server.

Our first DRM goal is to protect our technical service manuals. A large portion of our revenue comes from servicing the equipment we sell to chip manufacturers, and revenue has taken a hit when other parties have managed to acquire our service manuals and then offered our customers discounted servicing of our equipment.

How do other parties gain access to our service manuals? Well, the equipment that we build and service typically resides within chip fabrication plants, and it's not unusual for our service-manual PDFs to be sitting open on a workstation in a fab. These workstations are accessible to many people, sometimes including employees of our competitors.

To make matters worse, the management of some fabs won't let our employees bring in their company-issued laptops, so they have to load the PDF manuals on the fab workstations via a USB device or a CD-ROM. That's not a clean operation, because there's always a chance that remnants of the document may reside in a temporary directory on the fab workstation. Worse, our technicians could forgetfully leave the CD-ROM behind or lose it, and in some cases, they might be tempted to sell it.

> Every DRM vendor requires that an 'agent' be installed on the desktop.

So, what's the problem? Well, every DRM vendor requires that an "agent" be installed on the desktop. Fab managers are reluctant to install most third-party DRM agents. But they're comfortable with Adobe Reader, which seems to be almost as common as Microsoft Office. And Adobe's agent just happens to be Adobe Reader.

The dilemma is that Adobe Policy Server is a DRM tool that works only for PDFs. If we deploy it to address our foremost problem — unauthorized access to service manual PDFs — we can't provide DRM to other departments that may need to protect other types of documents. For example, our finance department will surely want to protect financial statements, and legal may want to apply a DRM policy to patent documents.

Once other departments get wind of this DRM deployment, they'll want to apply it to their important documents. All we'll be able to do is to tell them to convert documents to PDFs, which will then allow them to apply DRM policies. Of course, converting a document to PDF requires additional software, which isn't cheap. Meanwhile, Adobe has acquired the FileLine DRM division of Navisware, which it says will allow it to extend protection to Microsoft Office and CAD formats. The company says these capabilities will be available in the fall, and I hope it comes through on that promise.

I anticipate another problem, this one involving the EMC Documentum Content Server, which is the main repository for our service manuals. When a technical writer creates a service manual, it's checked into Documentum and automatically converted to a PDF. The DRM policy would be applied to the document when it was checked into Documentum. Problem is, lots of check-in/check-out operations take place, and many reviewers make changes to a document during its life cycle. Documents may go through many iterations before they're considered "gold," the status when we would want the DRM policy applied.

Adobe doesn't have any hooks built into Documentum to easily apply the policy at the proper point in the document's life cycle. Adobe says that while a client and server software development kit is available for Policy Server to integrate with custom authentication and packaging services, the product does not include out-of-the-box support for Documentum.

In addition, once a document is protected, it's encrypted and there is no way to effectively search for text within it. Just because we apply a DRM policy to a document doesn't mean we want to hide its existence. We just want to keep unauthorized users from accessing it. The ability to index a document to enable searching is essential.

As I have researched DRM, I have realized that this technology is in its infancy as it applies to businesses. But I must press forward. Deploying DRM is one of my company's strategic objectives, and its success is crucial to my yearly bonus.

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussions in our security blogs: **computerworld.com/blogs/security**

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

SECURITY LOG

Security Bookshelf

Hacking Exposed: Cisco Networks, by Andrew Vladimirov, Konstantin Gavrilenko and Andrei Mikhailovsky (McGraw-Hill Osborne, 2005).

In my experience, most enterprise networks have at least some Cisco gear. This book provides some decent beginner-level explanations of routing and network terminology and then dives in deep, with information on tools and techniques used to take advantage of vulnerabilities, configuration errors and just plain laziness to gain privileged access to routing hardware. From wireless to virtual LAN hopping, there's something for everyone.

– Mathias Thurman

Calif. Man Faces Phishing Charges

Jeffrey Brett Goodin of Azusa, Calif., was arrested on federal charges after allegedly using fake e-mail accounts to trick America Online Inc. users into sending him their personal and credit card information. According to the FBI, the phishing scam led to an unknown number of unauthorized purchases.

Spammer Must Pay AOL $5.5M

A federal judge has ordered Christopher William Smith of Prior Lake, Minn., to pay AOL more than $5.5 million in damages and legal fees for sending billions of spam messages. AOL sued Smith in 2004 under the CAN-SPAM Act. Smith, using the name Rizler, was considered one of the world's worst spammers.

DOUGLAS SCHWEITZER

Tips for Outsourcing Your Assessment Needs

WHEN it comes to your networks, there's no such thing as being too safe. Organizations with even a limited Internet presence can be targeted by hackers or hit with viruses, Trojan horses and other malware. Threats don't all originate from the outside, however. Companies of all sizes have seen network damage caused by either careless or outright vengeful employees. Whether the result of intended attacks or innocent activity such as unwittingly downloading an infected application, such damage to an organization can be significant and nasty. With the number of software vulnerabilities increasing dramatically, legislatures are trying to keep pace by enacting laws to maintain or bolster security. Some organizations are finding it a challenge to remain abreast of new laws and ahead of new malware.

DOUGLAS SCHWEITZER is a freelance writer and Internet security specialist in Nesconset, N.Y. Contact him at **dougneak@juno.com**.

Enter vulnerability assessments. VAs allow organizations to pinpoint more accurately where their networks are likely to be weakest. They typically look for vulnerabilities in your organization's IT environment and include several tests on your computers (desktops as well as laptops), your network and your Web applications. Test results will allow your IT staff to correct any weaknesses through reconfiguration or patching as needed.

Each organization must determine whether to have the VA performed by internal staffers or to outsource that service. Having an outside firm perform the VA may be more costly, but it can provide results more quickly and often with more accuracy.

As an alternative, some businesses opt for a middle ground where some portion of the assessments are performed in-house, with the rest left to an outside provider. For example, a professional could design the right protocol for your organization's needs and then train your company's own IT staff to take over those duties in the future.

A combination approach can set specific projects in motion quickly (with outsourcing), leaving follow-up and ensuing projects to your in-house team.

VA as an in-house project will come at a price. The time spent training your staffers to learn the needed skills (which may be totally unfamiliar to them) will take them away from other tasks. If the company budget will allow that downtime, then training may be a good option.

Access to the IT professionals doing the training will be short-lived, however, and as the security environment evolves, your employees will need to be retrained in order to keep up.

Using outsourced professionals can relieve your employees from those added duties, allowing you to be more selective about the VA team members and how long you keep them on, and helping you stay within budget.

Once you've decided to outsource, your organization will have to hire the right company to do the job. Not only must the outsourcer understand your company's specific needs, but it should also be able to meet those needs at a price that's within your budget. Your company and your employees must be ready to share all relevant information with the outsourcing team so it can carry out its function. Reluctance to provide certain information is natural, since doing so usually tends to reduce security and staffers have been trained to ensure that client and company information remain confidential.

When the company you've entrusted with your needs further outsources parts of the project — in other words, subcontracts — information is exposed even further. Remember that subcontracted work could be inferior to that of your primary contractor, and your organization should determine at the outset whether a vendor will be subcontracting. If it is, you may want to include in your contract with the outsourcing company a provision enabling you to reject or accept certain subcontracted vendors. Or you may want to refrain from outsourcing with that firm altogether.

Outsourcing VA offers many advantages. Both established firms and newer companies that have untested employees or are simply understaffed are attracted by the expertise afforded by a professional vendor.

Such vendors offer their clients the benefit of their experience, whether it's from having had a good number of prior customers or just years of know-how gained from servicing a wide range of companies. Their client-focused approach will provide your organization with an assessment tailored to your company's needs and present it in a clear, concise format. ▸

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BRIEFS

Savvion Launches BPM Tool Update

■ Savvion Inc. in Santa Clara, Calif., has announced the general availability of Savvion BusinessManager 6.5. The new release of the business process management software includes a new forms designer and an Eclipse-based integrated development environment for developers to use with enhanced application programming interfaces.

Network Physics Introduces Appliance

■ Network Physics Inc. in Mountain View, Calif., has unveiled the NP-2000 NetSensory Professional, an appliance for analyzing real-time network and application performance. The device, designed for midsize companies, is available now for $9,995. It is part of the vendor's NetSensory Enterprise Architecture family of real-time network and application performance monitoring tools.

Systinet Announces SOA Software Suite

■ Burlington, Mass.-based Systinet Corp. has announced its second-generation service-oriented architecture application suite, which is designed to provide governance and application life-cycle management for Web services. Pricing for Systinet 2, previously known as Blizzard, ranges from $80,000 to $100,000 for an entry-level or pilot license, to $1 million and up for an enterprise license.

DataMirror Releases PointBase 5.4

■ DataMirror Corp. in Markham, Ontario, has released the latest version of its Java relational database. PointBase 5.4 adds real-time performance monitoring and enhanced SQL query support to the Embedded version. The Micro version for mobile devices removes earlier limits on the number of records that can be stored. PointBase Embedded costs $500 for unlimited users per server; the PointBase Micro client version is $50 per user.

IT MENTOR
Surviving Process Without Going Berserk
A formal process can be seen as confining or liberating. IT Mentor Thomas Cutting offers tips for finding the right balance without driving yourself or your business customers crazy. **PAGE 34**

Q&A
Evolve or Fail
Decision-making styles that work for IT managers don't work for CIOs, say Kenneth R. Brousseau and Gary Hourihan. So whatever style got you that promotion, chances are you're going to have to change it. **PAGE 36**

OPINION
Detecting Disaster Projects
The best way to avoid a project disaster is to recognize one in the making, says Paul Glen. Here are some signs that your project is going off the rails. **PAGE 39**

JOHN RAE

Natural Alignment

Follow these five principles, and the IT-business divide will cease to exist.

BY VITA CASSESE

IN THE PAST SEVERAL years, there has been a growing interest in forging greater alignment between IT departments and the larger corporations in which IT exists. Some authors have attributed this to the collapse of the dot-com bubble, which caused disillusionment and confusion regarding the promise of technology, and the re-evaluation of technology-intensive efforts. Some have noted that, in an environment where the question "Does IT matter?" generates so much debate, tying IT closely to the rest of the business is a matter of survival. Others suggest that technology provides companies with significant competitive advantage and therefore needs to be close to the business.

While I agree with each of these points to a degree, from my perspective, the answer is more fundamental. The so-called divide between IT and the business is a misnomer. At the best companies, IT has never been separated from the business, and these companies naturally know how and where to use technology. At these companies, technologists understand what the business needs, and business leaders understand the benefits of technology. And rather than installing the latest gadget just

VITA CASSESE says there's no divide between IT and business at the best companies.

because it sounds cool, IT departments focus on enabling business processes and creating value — both at the top line, through a focus on innovation, and at the bottom line, through a focus on efficiency.

This theme — enabling the business to achieve value through innovation and savings through efficiencies — is one that I have seen succeed at Pfizer. It rests on a few key principles:

1. ALIGN WITH THE BUSINESS. While IT-business alignment may be the natural state in which I have come to operate, it doesn't mean that it's easy to achieve. Being close to the business means being close to your customer, and this is critically important to being able to deliver what the company needs. This happens in big ways, like having yearly IT strategic plans approved by a board of business leaders; and it happens in small ways, like having each IT person sit close to the business teams he works with on a day-to-day basis. This enables IT colleagues at every level to be conversant in the explicitly stated needs of the business and to have insights into latent or unstated needs as well. In fact, it's a recognized and valued skill at Pfizer to be able to identify and act on latent needs in anticipation of the business side's formulation of any kind of requirements definitions. When business people come to senior IT leaders to ask about business insights and ideas rather than about strictly IT issues, you know you've been successful in alignment.

2. FOCUS ON THE BUSINESS PROCESS. Processes are core to how a business operates. The applications we use to automate, streamline or standardize the business process may change, but focusing on the "what" of the process rather than the "how" of the IT solution is an excellent way to ensure lasting value.

> "The applications we use to automate, streamline or standardize the business process may change, but focusing on the 'what' of the process rather than the 'how' of the IT solution is an excellent way to ensure lasting value."
>
> **VITA CASSESE**

In a recent article, Michael Hammer told of how Albert Einstein once asked his secretary to distribute an exam to his students. Upon looking at the paper, the secretary objected and said, "But Professor Einstein, these are the same questions you used last year. Won't the students already know the answers?"

"It's all right, you see," Einstein replied. "The questions are the same, but the answers are different."

What was true for Einstein's students is true for IT. How we answer the questions may change as we progress from client/server to Web-based to open-source technologies, but what we need to address — those business processes that are at the core of how a company operates — are problems that don't change too much over time.

3. TELL GOOD STORIES (AND HAVE GOOD METRICS). Being able to explain how and where IT is adding value is a critical but frequently underappreciated skill. It's not self-serving to broadly and appropriately disseminate stories about how IT is adding value; it's a matter of survival. How will the vice president of marketing and the CEO understand the effect of IT if someone doesn't draw the connections for them?

Most business leaders don't look at positive sales-growth figures and automatically think, "Good job, IT department!" However, if that sales growth has come from online channels and IT has been a partner in creating an effective and efficient Web presence, then some credit is due. Just be sure to tell the story in terms that business leaders can understand: Minutes of uptime since last reboot, for instance, may not be as compelling a metric to executives as the number of customers finding product information online.

4. HIRE GOOD PEOPLE. It has been Pfizer's mantra for years that if you hire smart people, give them the tools to do their job, and measure and reward them on what is appropriate, then good results will more than likely ensue. People can be taught IT skills and can learn the ins and outs of a particular industry, but it's very difficult to teach common sense and the ability to learn new things. By the time most people reach the workforce, they either have these or they don't.

5. OPERATE WITH EXCELLENCE. The best-laid plans, a perfect alignment with the business and the best intentions can all be undone through sloppy execution. It should go without saying that the best way to engender confidence and convince people that they can rely on IT is to consistently perform and overdeliver on expectations.

While not exactly a checklist, these five points are what I continually use to check myself and ensure that I'm doing what is in the best interests of my company. They have been guideposts for how the IT department has developed at Pfizer over the past 25 years, and I hope they can be useful to you as well. ▸

Cassese is vice president of global business technology at Pfizer Global Pharmaceuticals. Contact her at vita.cassese@pfizer.com.

Operating With Excellence

TRYING TO TELL someone how to "operate with excellence" is like trying to explain what makes the latest movie star cool – it's hard to describe, but we all know it when we see it.

For IT professionals, however, I believe that performing consistently, exceeding expectations and maintaining your own high standards are the steps that provide the most important foundation for operating in a way that earns confidence and is the basis for a strong bond of trust between IT and the rest of the business.

Although each situation is unique, there are some broad technical guidelines IT leaders should keep in mind:

Stay current with new and evolving trends. While gaining experience with each new release of every application on the market could be its own full-time job, all IT professionals should be familiar with advances taking place in both the technical and business areas in which they operate. This allows them to understand and relate their day-to-day work to their environments and to identify opportunities before they become problems.

Use current technologies, and make sure you have a good architectural foundation. A good system is one that works tomorrow as well as it works today and can adapt and scale to meet evolving needs.

Using a mix of current and evolving technologies appropriately and basing development on the use of solid architectural principles ensures that systems are built with the rigor that is the foundation of a quality product.

Be responsive to customer needs at all points of the application life cycle. Understanding the proper role of prototyping, rolling out, scaling up, phasing out and eventually decommissioning technologies shows that you understand the customer's needs and are being responsive by operating in a way that maximizes technology's value.

– VITA CASSESE

MORE ON ALIGNMENT

Here are some recent and forthcoming books on IT-business alignment:

Alignment
By Robert S. Kaplan and David P. Norton
Harvard Business School Press, due April 30, 2006

Beyond Control: Managing Strategic Alignment Through Corporate Dialogue
By Fred Lachotzki and Robert Noteboom
John Wiley & Sons, 2005

Practical Strategy: Aligning Business and Information Technology
By Rupert Hayles
Kendall Hunt Publishing Co., 2005

Manage IT as a Business: How to Achieve Alignment and Add Value to the Company
By Bennet P. Lientz and Lee Larssen
Butterworth-Heinemann, 2004

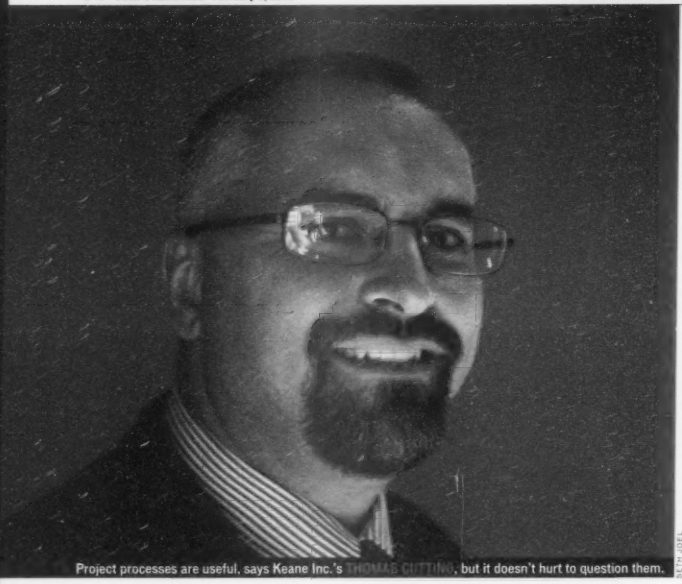
The Alignment Effect: How to Get Real Business Value Out of Technology
By Faisal Hoque
Financial Times Prentice Hall, 2002

_THE INVASION

_DAY 11: These commoditized clones have taken over. Haven't been outside in days. Living off instant coffee and a tin of breath mints. :-(

_DAY 12: They're breeding. Multiplying. Multiple apps. Multiple databases. They must have a queen.

_Help...me....



Project processes are useful, says Keane Inc.'s THOMAS CUTTING, but it doesn't hurt to question them.

BETH JOEL

SURVIVING PROCESS WITHOUT GOING BERSERK

How to find the balance between domination and anarchy. BY THOMAS CUTTING

HADRIAN'S WALL stands as a monument to the battle between process and freedom. Built by the Romans in northern Britain between 122 and 130 A.D., the 74-mile barrier marked the final frontier of the vast and powerful Roman Empire. On one side stood law and order. On the other, men painted themselves blue, screamed like banshees and went all but berserk in their fight to remain free.

Likewise, process- and quality-focused methods like the Capability Maturity Model and ISO 9000 impose law and order within an organization. Studies have shown that the consistent use of processes increases repeatability, productivity and quality while decreasing project delivery time. But these same processes can appear as a wall to the business people who are pressured to get their ideas to market. The project team ends up on the battle line between the program management office (PMO) enforcing the procedures and the business people seeking to retain their freedom.

IT MENTOR

I have seen project managers burn out striving to please both groups. Here are some practical ideas to keep process from driving everyone berserk:

QUESTION PROCESSES. Processes are not always as helpful as intended, but a successful process matures over time through the addition, adjustment and removal of pieces.

In my own experience, a form used to track project defects was one of those processes that offered limited payback. Its intent was to record the point during application development where defects were introduced so that we could determine how to improve. The time it took to record and analyze the information was disproportionate to the results, however. We questioned the process, found it unnecessary and removed it.

EDUCATE EVERYONE. Once a process is understood, it's important to communicate it to the project team and other stakeholders affected by it, including the business stakeholders. Warning: People frequently resist a new procedure. The temptation for project managers is to shirk responsibility by saying, "The process group makes us do it."

While initially this may get you sympathy, ultimately it will cause frustration and animosity toward the processes and the project.

REDUCE REDUNDANCY. Having multiple meetings or reports with the same purpose is just as insane as it sounds. One strategy to avoid this is to combine the team and business status meetings. Another is to combine multiple projects for the same business unit into one status meeting. If multiple groups need to receive status reports, agree on a common format to avoid duplicate efforts. Be aware, however, that if the original reports serve completely different purposes, combining them may not offer any benefit.

MANAGE MEETINGS. As meetings are combined and more people and projects are involved, it becomes increasingly important to manage meetings well. Share the meeting's purpose ahead of time, along with material to be reviewed. If an agenda isn't sent prior to the meeting, at least list the main discussion topics on the invitation.

If status meetings tend to immediately turn into working sessions, be sure to spend the first five minutes reviewing the status of the project. Make sure that risks and issues are openly communicated and discussed. These tend to get overlooked in order to get to the more "important stuff." Move them to the front of the agenda.

It's vital to keep minutes of each meeting. If something isn't written down, it's as if it was never mentioned.

KNOW YOUR LIMITS. Many project managers today are running more than one project at a time. It's important to know how much is too much and to be able to say "no thank you" when offered additional projects.

Conservatively, even small projects will take an average of six hours of project management time per week to handle basic tasks such as status reporting, status meetings, maintaining the schedule, and handling risks and issues. This doesn't include design or technical discussions. When managers become overcommitted, productivity and quality quickly fall. If you try to focus on everything, you'll accomplish nothing.

ENLIST YOUR RESOURCES. It's not necessary for the project manager to do everything. Find items that can be offloaded to team members. If a team member is looking to move into a management role, introduce him to some of the activities and become a mentor.

CALL ON YOUR MANAGEMENT. You are not alone. When there is trouble with resource availability or productivity, or if you need help escalating issues or obtaining approvals, involve your management. This allows you to remain focused on the project without stepping on any political toes.

ANNOUNCE ACHIEVEMENTS. Become the mini marketing department for the team and project. Recognizing the accomplishments of team members in front of the business stakeholders will encourage them to continue striving for success and will highlight the value of the team for everyone.

These practical steps will keep you from going berserk and running screaming from your cube. It may even persuade the business people to leave the blue paint and bagpipes at home.

Cutting is a certified project management professional at Keane Inc. Contact him at Thomas_E_Cutting@Keane.com.

Getting to Berserk in Eight Simple Steps

For the rebel in all of us, process looks like a wall, hindering our freedom, but if you want to really feel trapped, follow these simple steps:

1. Ignore the process and hope it goes away. Even Rome didn't last forever.
2. Tell everyone that the PMO forces you to follow process.
3. Schedule more meetings.
4. Skip meeting agendas and minutes. They take time away from getting real work done.
5. Never say no to your management, no matter how overloaded you are.
6. Do everything yourself. After all, process is the responsibility of the project manager.
7. Escalate issues only when the business gets really upset.
8. As milestones are met, push the team to do more.

– THOMAS CUTTING

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Evolve OR Fail

Have you developed a decision-making style that works for you? Great! Get ready to change it.

Q&A

Did you ever wonder why that firecracker IT supervisor who got promoted to manager crashed and burned? In this month's Harvard Business Review, **Kenneth R. Brousseau, Gary Hourihan,** *Rikard Larsson and the late Michael J. Driver explain how successful decision-makers change their styles as they move up the career ladder. Brousseau, CEO of Decision Dynamics, which develops behavioral assessment technology, and Hourihan, global president of Korn/Ferry International's leadership consulting business, talked with Kathleen Melymuka about the need to evolve your decision-making style to fit your situation.*

Your decision-making matrix is made up of combinations of two fundamental styles. Tell me about the first: how people use information. Brousseau: Some people grab the most pertinent facts and make their decision. They know there may be more information, but they feel that the information at hand is sufficient. Other people want to be sure they haven't missed important details that may change their understanding. So they hold out [until] their efforts to uncover new information aren't turning up anything very new.

Kenneth R. Brousseau

The other fundamental style involves how people create options. Brousseau: Some people zero in on one option they see as the best for the situation. Once they do this, they stick with that course of action. Others come up with numerous options. No one course of action seems adequate, so they put several into effect, and they may modify their course along the way as things change.

When and how do managers' decision-making styles begin to change as their careers progress? Brousseau: The first major transition point occurs when you have other managers as direct reports. Your responsibility has broadened, and the time horizon you're working with has increased. As managers get farther removed from the day-to-day action, they have to rely more on other people for the information they need to make good decisions and be willing to wait and think before jumping to a conclusion. The styles that encourage others to come forward with information are quite different from those that are needed on the front line. The key thing is you start listening more. You also do everything you can to make yourself approachable. You solicit ideas and viewpoints. You show your appreciation to others. It's absolutely essential, or things will happen that you don't know about and you'll make decisions based on the wrong information.

Hourihan: You also need to handle more complex information, because you don't have to wrap everything up by the end of the day. You need an increased ability to tolerate ambiguity and uncertainty and absorb a lot of information and see things — both the forest and the trees.

Gary Hourihan

But one attribute that doesn't change is the ability to pull the trigger. We assess a lot of people who have complex, creative thinking but can't make a decision. They fail.

Do all managers go through this same evolution? Brousseau: When you're promoted, there's a tendency to keep on doing what made you successful. But it doesn't work so well. You crash into walls and become puzzled until the light goes on. Some realize this gradually or get coaching. Some crash and burn. Some move through the management levels without changing. But this takes a toll, and their careers tend to founder at some point.

Hourihan: Either you change or you fail. That's the message here. Coaching or leadership development training at that level is critical.

Tell me about the secondary transition point, where styles change again. Brousseau: This starts at the director or vice president level, where you need to be very creative to generate a lot of ideas. But as you continue to move up, you need to start thinking more critically and be more focused and put more emphasis on sorting through options and making the right choices, not generating options.

Hourihan: You don't want the CEO saying to the board, "There are several ways we can do this." You want him to say, "We've looked at the alternatives and this is the way we want to go."

What are the implications of your findings for IT managers? Brousseau: Often, the CIO is more in the creative, "let's look at a lot of options" realm and not as heavy on the action as other senior execs. The CIO needs to realize that the chief executive wants to know what we will do about XYZ, and he needs to articulate that. Otherwise, the CEO thinks the CIO doesn't know what to do.

Hourihan: A lot of CIOs with issues have an inability to see broadly across the spectrum — to see the business solution side of it. They need to get their thought process out of the vertical silo.

What about the implications of your work for those who develop managers? Brousseau: They need to help people develop a road map in their organization and note where the nature of the work shifts as people move along in their careers. You need to put the emphasis where it belongs at each stage and realize that things change. The key skill set for up-and-coming managers is to read what situations require of them — to see when they need to be decision- and action-focused, and when to stop and play with ideas. The key to success is to manage your own style depending on what the situation requires.

This is the latest in a series of monthly discussions with Harvard Business Review authors on topics of interest to IT managers.

Decision-making Styles

People differ in the way they use information and the number of options they consider. Combinations of these approaches produce four distinct decision-making styles.

	Less Information	More Information
One Option	**DECISIVE** ■ Direct ■ Efficient ■ Fast ■ Firm ■ Perceived as task-oriented	**COMPLEX** ■ Analytic ■ Focused ■ Final ■ Perceived as intellectual
Many Options	**FLEXIBLE** ■ Speedy ■ Adaptive ■ Able to change course quickly ■ Perceived as highly social and responsive	**CREATIVE** ■ Frames issues broadly ■ Many sources of input ■ Course may evolve over time ■ Perceived as highly participative

SOURCE: HARVARD BUSINESS REVIEW

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D1401

Career Watch

CIOs Are Sticking Around

CIOs have a reputation for hopping from job to job, but Forrester Research Inc. found that 30% of CIOs at large companies have been on the job for more than five years.

Approximately how long have you been in the CIO position at your company?

SOURCE: FORRESTER RESEARCH INC., SEPTEMBER 2005

Mining a Rich Vein of Software Talent

One of the largest examples of "farmshoring" to date is getting under way in rural southwestern Virginia. But that being coal country, maybe this is actually a case of "mineshoring."

Farmshoring, the practice of sending software-related jobs to rural areas of the U.S., has been heralded as an antidote to offshoring, in which those same jobs are sent to far-away, low-wage places like India and China. Workers in Wichita make more than those in Bangalore, but there are fewer hurdles to overcome in the way of culture, language and time zones.

According to a story by Ellen McCarthy in *The Washington Post* early last month, the reasons for sending coding work to rural Virginia are many. Chief among them may be the fact that government contractors are often constrained from giving jobs to overseas workers.

But a couple of those contractors, CGI-AMS Inc. and Northrop Grumman Corp., complain that the job market in northern Virginia is just too tight. So both companies in the next few months will begin building multimillion-dollar technology centers in Lebanon, Va., and will recruit hundreds of software engineers at salaries well above the region's average, according to the *Post's* story.

Why Lebanon? McCarthy explains: "Local officials drafted a study to show that 4,566 computer science degrees were awarded in the past five years by colleges within 100 miles of Lebanon, including Virginia Tech, Radford University and James Madison University. Area community colleges promised to tailor their courses to fit CGI-AMS's needs, and the county said it would build a new $5 million, 53,000-square-foot facility where the company could do relatively basic software development and troubleshooting."

PAGE COMPILED BY JAMIE ECKLE.

ASK A PREMIER 100 IT LEADER

David Rice

TITLE: Vice president and CIO

COMPANY: Siemens Medical Solutions Inc., Malvern, Pa.

PREMIER 100 IT LEADER

Rice is this month's guest Premier 100 IT Leader, answering readers' questions about management vs. leadership and software development skills. If you have a question you'd like to pose to one of our Premier 100 IT Leaders, send it to askaleader@computerworld.com and watch for this column each month.

A leader is usually a good manager. Are good managers necessarily good leaders? Good managers need leadership abilities, and good leaders need management abilities. Oftentimes, leadership and management skills are discussed as though they are mutually exclusive. Instead, they are complementary. Circumstances often dictate which skill is most needed at any given point in time.

I believe that both leadership and management skills can be learned and developed and that both are necessary in order to be optimally successful – especially over the long term.

With software development migrating overseas, do you think a developer with 20-plus years of experience would be wise to retrain in network support and administration? Although you identify yourself as an experienced hand, it's not clear what type of software you've developed during your career, and this is an important consideration. For example, end-user application developers will find the sort of transition you're describing more difficult to make than those who are experienced with systems-level software development. In general, the deeper in the ISO stack you are in terms of software development experience, the easier you will find making the transition you describe.

You might want to consider further developing "surround skills" to complement your software development expertise – for example, strengthening your project management skills and credentials by completing a PMP certification through the Project Management Institute. Or you might want to consider further honing your analysis skills and applying them in particular to effective requirements definition and requirements management skills. Strong project management and/or analysis skills geared toward requirements definition are worth their weight in gold – in spite of the current trend toward offshoring.

Technology trends come and go, but there will always be a need for highly skilled software professionals. Do what you enjoy doing the most, and do it to the very best of your ability. When all is said and done, that's what will give you the most personal and professional satisfaction – and, more often than not, will result in your remaining productively engaged.

65% Percentage of U.S.-based IT workers who say they usually first hear about important business matters through rumor.

SOURCE: ISR SURVEY OF 6,037 U.S. IT WORKERS, DECEMBER 2005

Is Your Training on Track?

More employees seem to be getting value from their company-paid training than not, with 60% reporting that the last training program they attended was a good or great use of their time. We just wonder why the group that most often said that the last training they attended was a total waste of time was also most likely to be considering future training or education.

	Said last training they attended was a total waste of time	Said last training they attended was a great use of time	Have a thought-out career plan	Are considering future training or education
All workers	12%	26%	49%	50%
Workers earning less than $20,000/year	21%	22%	42%	59%
Workers earning more than $100,000/year	5%	31%	66%	49%

SOURCE: HUDSON NATIONAL SURVEY OF 1,674 EMPLOYEES, CONDUCTED JAN. 4-9, 2006

PAUL GLEN

Detecting Disaster Projects

IF YOU'VE BEEN in this industry for any length of time, you've probably been caught up in some sort of project disaster. They happen to the best of us, and they cause financial suffering for our companies and personal pain for all involved. Careers are trashed and personal lives disrupted.

Even by optimistic estimates, about 75% of projects are late, over budget, missing major functionality or canceled outright. So depending on your definition, most of our projects end up somewhere between failure and disaster.

There are several important things to do once you realize that you're facing a disaster in the making, but you shouldn't do any of them until you are really sure that it's an impending disaster you're up against. So the first key to disaster recovery is disaster detection.

PAUL GLEN helps technical organizations to grow better leaders, and managers to perform at their best. He is the author of the award-winning book *Leading Geeks*. Contact him at info@paulglen.com.

Given that so many projects go astray, you'd think that we'd be better at detecting these sorts of problems. Heck, our default assumption about projects should be that they're in trouble. But that's just not the way we're built.

Why is it so hard to know? Well, I've got a few theories.

No real plan. If there's no baseline to work from, no one really knows that a project is late. Many projects never get to the stage of firming up a detailed plan.

Excessive optimism. In many teams, there's a perpetual optimism that just because the project is behind at the current time doesn't mean that they won't soon catch up.

Fear of admission. When a project team is in trouble, no one wants to go to senior management and admit it. That might bring uncomfortable scrutiny, blame and retaliation. It's easy for team members to delude themselves into thinking, "Maybe no one will notice. Maybe things will get better. Maybe I'll find a new job before someone finds out."

So how do you figure out that you're getting into trouble? How can you monitor projects for those early warning signs that things are going off the rails? Here are a few things to look for:

Poor team morale. This is probably the biggest thing to look for, not because it's the leading cause of project failure, but because it's a great indicator that something else is wrong. Many of the other things listed below may first be visible in the team's morale, since team members will probably be aware of project problems before you are.

Poorly understood team roles. If the people on the team don't seem clear about what their individual roles should be and how they should be interacting, chances are there's a problem brewing.

Absent sponsors. If the sponsoring managers can't be bothered investing appropriate time in a project upfront, chances are they're not going to like what they get at the end.

Not enough methodology. If the team doesn't have a commonly understood approach to completing the work, it is likely to have trouble doing so.

Too much methodology. Methodology is a tool for completing a project, not a guarantee that things will go smoothly. And as with any tool, it may be employed for its intended use or as a weapon. A team that's overburdened with methodology is usually either too concerned with the means rather than the end or is using the process as a bludgeon to further political goals.

Meager management. Inexperienced or unskilled managers often doom their projects to failure.

Lacking leadership. Although we often have a difficult time defining good leadership, it's one of those things that we usually know when we see it. If a project lacks external and/or internal leadership, chances are good that performance will flag.

Inadequate technical skills. While this is not the most common cause of project failure, it's often a factor. Some teams are assigned without the background and training they need to succeed. Since we usually staff projects with whoever is available at the time rather than with the best fit, critical skills are sometimes missing.

Too many meetings. Project teams that spend too much time in meeting rooms are often doing so to make up for inadequate planning. Because they haven't thought things out in advance, they try to coordinate everything on the fly.

If you want to prevent project catastrophes, early problem detection is the most important thing you can do. By the time an impending disaster becomes obvious, recovery will be quite difficult. ▸

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GM

esses, such as software development, asset management, computer operations monitoring and end-user notification when problems occur.

During a conference call, Szygenda bluntly described IT as "an immature industry" because of its lack of standardization. Ensuring that the vendors "use the exact same processes" in delivering IT services to GM was the first thing he set out to accomplish, he said. "We did that first because we have to make this look like one GM, not five or six or seven IT companies," Szygenda said.

He added that he thinks at least some of the vendors involved with GM will use the standardized processes on other customer accounts.

Gartner Inc. analyst Linda Scardino said GM's push for standards among its outsourcing vendors is a big step toward the "industrialization of IT" for delivering services to users. "I think it will be influential," she said. "We all have been watching and waiting to see what GM is going to do."

For users, increased standardization could make services benchmarking easier, which in turn could lead to lower contract costs, said Robert McNeil, an analyst at Forrester Research Inc.

McNeil added that GM's decision to rely more heavily on services vendors other than EDS means "the death of sole-source delivery." Using multiple vendors to a greater extent will give GM added flexibility, drive more competition for its business and help it manage the risks associated with outsourcing IT work, he said.

Another decision by GM that could sway other companies is the signing of five-year contracts, McNeil said. GM's initial agreement with EDS after spinning off the services firm was for 10 years. That contract expires in June.

Many of the standardized operating processes being required by GM are based on the Information Technology Infrastructure Library, a set of IT best practices that was developed in the 1980s and is maintained by the U.K.'s Office of Government Commerce.

Setting Standards

GM is also creating a structure for ensuring that the new procedures are followed. For instance, one of Capgemini's IT roles at GM will be managing application development and integration across the automaker's business units, said Joe Kovach, a Capgemini vice president who manages the firm's GM contracts. Each vendor will have responsibility for applications at specific business units, but Capgemini will ensure that all the work follows the standards set by GM, Kovach said. The goals are to reduce cost and improve functionality for GM, he said.

The requirement that vendors cooperate on standards sometimes presented a challenge, said Jim Angers, who manages HP's business with GM. In working with other vendors, "you feel like you are sharing how you actually manage clients," Angers said. But, he added, HP and the other vendors needed to make it work "if we were going to have good transitions and great interconnects between the companies."

GM said the contracting process will continue later in the year when it awards new telecommunications contracts to replace existing ones due to expire at year's end.

The company added that the rest of the planned IT contracts will be awarded over the next five years "as a part of the natural business process," as it assesses spending needs for hardware and software purchases and the development and deployment of new systems.

EDS Remains GM's Top Vendor but Loses Some Ground

EDS SAID it won about 70% of the individual IT services contracts it competed for at GM as part of the two-year bidding process. However, the amount of work that the services firm does for GM will shrink somewhat under the new deals.

Plano, Texas-based EDS expects $1.2 billion to $1.4 billion in annual revenue from GM through the new contracts awarded last week and other business that wasn't part of the bidding process. In comparison, its yearly revenue is about $1.8 billion under its current contract with the automaker. EDS was owned by GM until 1996.

Hewlett-Packard said it will receive more than $700 million worth of services contracts from GM over the next five years; IBM put its share at up to $500 million, while Covisint and Capgemini didn't disclose the expected value of their contracts.

Wipro, the only offshore services provider selected by GM, said it expects revenue of about $300 million from the new contracts. The Bangalore, India-based company already does software development work for GM, with revenue from the existing deals totaling about $30 million over the past four quarters.

To handle the bigger workload, Wipro plans to increase the number of employees assigned to GM projects from 500 to 1,000, said Sudip Banerjee, president of the enterprise solutions division at the company's Wipro Technologies unit. Future work will be done both at GM sites and Wipro's offshore facilities, Banerjee said.

GM CIO Ralph Szygenda said the increased business awarded to Wipro doesn't signal a big shift by the automaker toward offshore IT work. Some of GM's other IT services providers also do work overseas now. "I don't think it's moving any resources," he said. "We are already there."

Cost savings generated through the bidding process will reduce GM's spending rate for IT services below the projected five-year, $15 billion level, according to the company. But Szygenda said that any savings may be reinvested in new IT projects.

Now that the major IT services contracts have been awarded, GM will focus on ensuring a smooth transition over the next five months, Szygenda said. He added that his primary goals are to avoid any disruptions to GM's business and to make sure that the IT efforts fully support the company's global operations.

– PATRICK THIBODEAU, WITH JOHN RIBEIRO OF THE IDG NEWS SERVICE

Group Crafts Standards for Evaluating Outsourcers

BY JAIKUMAR VIJAYAN

Six large U.S. banks, an industry group and four major accounting firms joined forces in early 2004 to create standards for assessing the security practices of outsourcing vendors that work with financial services firms.

The goal was to create consistent standards for use in evaluating the controls that outsourcing vendors use to protect sensitive data, said Faith Boettger, a senior consultant at BITS, the technology arm of the Washington-based Financial Services Roundtable.

The standards are now available to the financial services community, following a trial of the program undertaken by five service providers, including IBM, Acxiom Corp. and First Data Corp.

The standards program, called the Financial Institution Shared Assessments Program, was developed by BITS, Bank of America Corp., The Bank of New York Co., Citigroup Inc., JPMorgan Chase & Co., U.S. Bancorp and Wells Fargo & Co. Accounting firms Deloitte & Touche LLP, KPMG International, PricewaterhouseCoopers and Ernst & Young International serve as technical advisers for the program.

The guidelines can be used to evaluate an outsourcer's controls for access, asset classification, personnel security, physical and environmental security, communications, business continuity and regulatory compliance, Boettger said.

The group expects that the standards will result in improved security and risk-management practices, she said. The program will also give auditing firms standard criteria for measuring the security practices of different service providers, she added.

"BITS member companies have for a long time been focused on looking at the management of risk within outsourcing relationships," Boettger said. The new programs should help such companies better meet their regulatory and risk management requirements, she explained.

Joe Duffy, lead managing partner for the performance improvement practice at PricewaterhouseCoopers, said the initiative is an example of the private sector coming together to address information security issues at a time of heightened regulatory oversight.

"What is groundbreaking here is the fact that industry, the accounting profession and the supplier community are coming together and agreeing" on common assessment standards, Duffy said.

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FRANK HAYES ■ FRANKLY SPEAKING

Creative Bungling

THE BOSTON GLOBE managed to expose as many as 240,000 subscribers to identity theft last week — no hackers or viruses required. Here's how: The *Globe* shares a computer system with a sister newspaper in suburban Worcester, Mass., the *Telegram & Gazette*. On Jan. 29, the *Telegram & Gazette* sent 9,000 bundles of Sunday papers to retailers and delivery people wrapped in recycled office paper. But some of that recycled paper happened to be printouts that included subscribers' credit card numbers and checking account information.

Is that a creative way of violating customer privacy, or what?

The *Globe/Telegram & Gazette* snafu followed two incidents in which other companies' customer information was stolen from employees' cars. A thief broke into a car in a suburb of Portland, Ore., and stole backup disks containing information on 365,000 patients of Providence Health System, a West Coast medical group. Another smash-and-grab thief stole a laptop belonging to an employee of Ameriprise Financial that contained unencrypted data on 158,000 customers.

Here's the scary part: In each case except the Ameriprise incident, the information was handled according to standard operating procedures. The recycling was approved. The home-stored backups were SOP. Even the Ameriprise employee was allowed to have the data on a laptop as long as it was encrypted, but the employee failed to follow encryption procedures and was fired for it.

And here's the scarier part: Even though data security is IT's job, this isn't a problem that IT can solve.

Why not? Because non-IT employees really are creative. They're always looking for better, faster, cheaper ways of doing their jobs. That includes reusing paper from discarded printouts. And storing backups off-site at employees' homes. And, of course, taking work home on laptops.

They'll always come up with new ways of exposing data that we haven't thought of. Not on purpose; they're not trying to put customers or the business at risk. But data security and customer privacy just aren't top-of-mind for them. The gap between what concerns us (protecting data) and what they worry about (doing business) is just too great.

What can IT do? We could try to lock down all that data: restrict access, prevent printing, block local storage. Within limits, that's a good approach. After all, how many employees really need long lists of customers' Social Security and credit card numbers? Tagging such information as need-to-know and blocking its use in routine reports is good security practice.

But that's not enough. We also need to get creative. We need to find ways to get employees thinking about data security — and make it easier for them to keep data secure.

Ask yourself: How easy do you make it for employees to get just the data they need in reports? How easily can they encrypt that data and keep it encrypted every second it's not in immediate use? Is sensitive data clearly marked so confidential reports won't be mistaken for safe-to-recycle office paper? Are outdated practices like employees carrying home backups still being used in some departments?

How often do you talk with employees about data security? Not send e-mail — talk. And not in general terms, but about how it directly applies to their work processes. How much of that security-talk time is for them to ask questions and make suggestions? How quickly do you follow up so they see results?

In short, how well are you harnessing that non-IT-employee creativity to make data more secure instead of putting it further at risk?

IT can't solve all data security problems. Not today, when so much data is in the hands of employees who need it to do their jobs.

But by getting those employees to make data security a priority — and then helping them to make it a reality — we can close that security gap. Our employees will be on our side. Our customers' privacy will be protected.

And we'll be a lot less likely to read about our troubles in the Sunday paper.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com**.

So You're Having No Problems?

Consulting outfit brings in out-of-town help for a client's desktop migration. "On Monday, we go desk to desk to make sure things are running smoothly," says a pilot fish on the project. "One sociable guy from out East who's helping knows the employees here only by their name placards but quickly makes friends as he solves one minor problem after another. At the front desk, he makes some small talk with the woman there, then asks, 'So is your Outlook working OK?' She stares at him in silence for a long, awkward moment, then with a confused expression replies meekly, 'I'm delivering flowers.' "

SHARK TANK

Now!

Human resources manager calls pilot fish to authorize installation of the payroll system for a new HR employee as soon as possible. "I clear the request with the payroll department and ask the desktop team to push the software," says fish. "Desktop team requests the PC name. HR manager replies that the user doesn't have a PC." OK, fish thinks, let's get him one. He calls the hardware team to install a PC at the new employee's desk. HR manager informs him that the user doesn't have a desk yet – and won't have an assigned location for another month. Mutters fish, "We'll get right on it."

It's There, Too

User's hard drive crashes, and even though support pilot fish sends it to a data recovery service, it's beyond help. "This hard drive had over 11,000 hardware errors on it, and the data was unrecoverable," fish says. "After telling the user that we could not get the data off the hard drive, she then proceeded to tell me that she didn't need the data off the hard drive – she needed it off the desktop. Make it happen! I explained to her in gentle terms that the desktop was on the hard drive and that it, too, was inaccessible."

Let's Try Social Engineering

Phone-sex charges start to show up on the phone bill for the modem on a system this pilot fish supports. "Someone was unplugging the line from the modem and into a telephone to do his disgusting business," says fish. "I asked our phone support guys to make the line incoming only; couldn't be done. I looked into soldering the cord into the back of the modem – didn't find anything that would work." Finally, fish prints out a sign and tapes it to the back of the modem: *Notice: Do not unplug these phone lines. These phone lines will not permit outgoing calls.* Says satisfied fish, "We never saw another phone-sex item on the bill."

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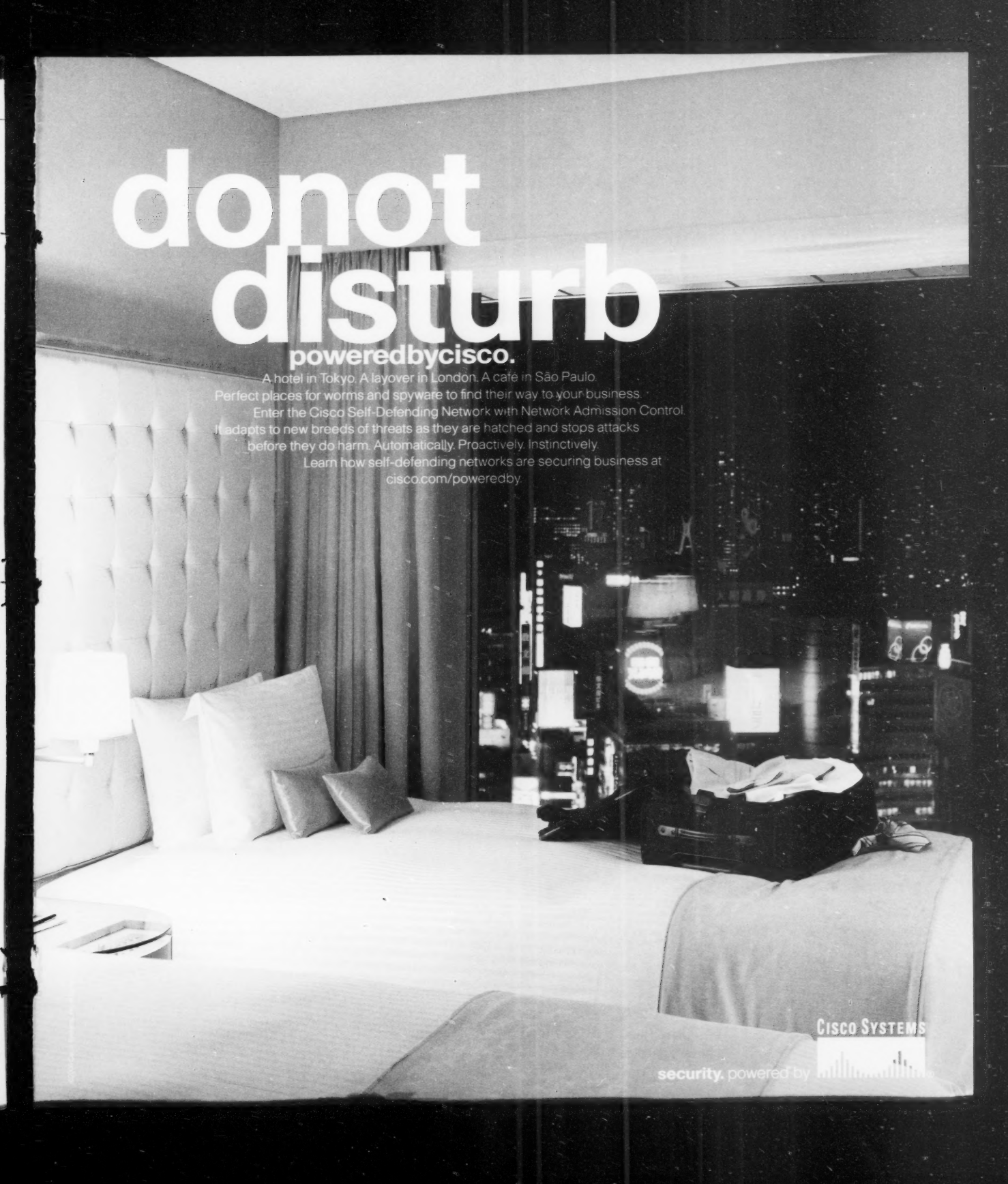
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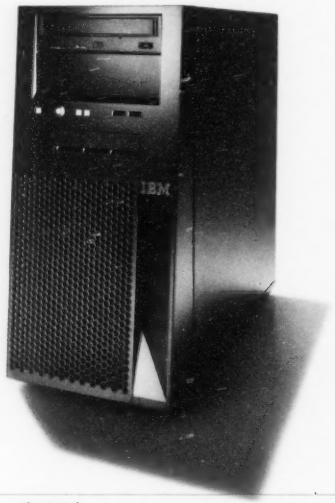

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